

2003

An examination of the psychology major and affective outcomes among students

Georjanna J. Parkinson
San Jose State University

Follow this and additional works at: https://scholarworks.sjsu.edu/etd_theses

Recommended Citation

Parkinson, Georjanna J., "An examination of the psychology major and affective outcomes among students" (2003). *Master's Theses*. 2459.

DOI: <https://doi.org/10.31979/etd.52ed-88vt>

https://scholarworks.sjsu.edu/etd_theses/2459

This Thesis is brought to you for free and open access by the Master's Theses and Graduate Research at SJSU ScholarWorks. It has been accepted for inclusion in Master's Theses by an authorized administrator of SJSU ScholarWorks. For more information, please contact scholarworks@sjsu.edu.

**AN EXAMINATION OF THE PSYCHOLOGY MAJOR AND AFFECTIVE
OUTCOMES AMONG STUDENTS**

A Thesis

Presented to

The Faculty of the Department of Psychology

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

by

Georjanna J. Parkinson

August 2003

UMI Number: 1417495

Copyright 2003 by
Parkinson, Georganna J.

All rights reserved.

INFORMATION TO USERS

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleed-through, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

UMI[®]

UMI Microform 1417495

Copyright 2004 by ProQuest Information and Learning Company.

All rights reserved. This microform edition is protected against
unauthorized copying under Title 17, United States Code.

ProQuest Information and Learning Company
300 North Zeeb Road
P.O. Box 1346
Ann Arbor, MI 48106-1346

© 2003

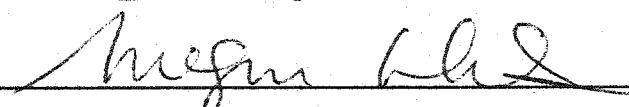
Georjanna J. Parkinson

ALL RIGHTS RESERVED

APPROVED FOR THE DEPARTMENT OF PSYCHOLOGY



Dr. Howard Tokunaga

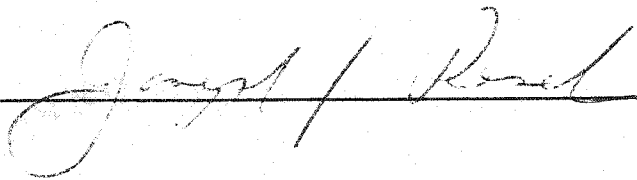


Dr. Megumi Hosoda



Dr. William A. Shapiro, University of California, San Francisco

APPROVED FOR THE UNIVERSITY



ABSTRACT

AN EXAMINATION OF THE PSYCHOLOGY MAJOR AND AFFECTIVE OUTCOMES AMONG STUDENTS

by Georjanna J. Parkinson

This study evaluated the quality of the undergraduate psychology program at San Jose State University as perceived by its students. The relationships between five aspects of the psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, opportunities to gain experience) and three affective student outcomes (satisfaction with major, feelings of preparedness, intention to pursue psychology) were examined. After taking into account student characteristics (age, gender, ethnicity, area of emphasis in psychology), multiple regression analyses demonstrated that students' affective outcomes were more strongly influenced by their personal relationships with instructors than by instructional quality, skill development, or opportunities to gain experience. Subsequent analyses revealed that the influence of the five aspects of the psychology major on students' satisfaction with major and intentions to pursue psychology varied as a function of age and area of emphasis. The implications of these findings are discussed.

ACKNOWLEDGEMENTS

I would like to express my appreciation to my committee members, Drs. Howard Tokunaga, Megumi Hosoda, and William Shapiro, for their feedback, guidance, and patience. I would also like to express my gratitude to parents, to whom I will be forever indebted for their support of my education. Finally, I would like to thank my husband, Michael. Thank you Michael. I am more grateful than I can say for your constant support, encouragement, and faith in my ability to complete this work.

Table of Contents

Section	Page
1. Introduction	3
What Are Affective Outcomes?	4
Why Focus On Affective Outcomes?	5
Satisfaction with the Psychology Major: The Didactic-Versus-Social Debate	7
Other Didactic Aspects of the Psychology Major: General and Psychological Skill Development	10
The Experiential Aspect of the Psychology Major	11
Other Affective Outcomes: Student Preparedness and Intentions	12
Student Characteristics and the Psychology Major	14
Summary	20
Purpose and Hypotheses	21
2. Method	25
Data Source	25
Procedure in the Original Sampling	25
Procedure in the Present Study	26
Participants	26
Instruments	26
Predictor Variables (Aspects of Major)	27
Criterion Variables (Affective Outcomes)	29

Table of Contents (Cont.)

Section	Page
4. Method (Cont.)	30
Demographic Variables (Student Characteristics)	30
5. Results	31
Descriptive Statistics	31
Pearson Correlations	31
Standard Multiple Regression Analyses	36
Hierarchical Multiple Regression Analyses	38
Standard Multiple Regression Analyses Comparing Age Groups	43
Standard Multiple Regression Analyses Comparing Emphasis Groups	47
6. Discussion	51
Findings of the Study	51
Summary	64
Implications of the Study	65
Evaluation of the Study	68
7. Conclusion	70
References	72
Appendix: Survey Items Organized by Scale	92

List of Tables

Table	Page
1. Demographic Data for the Sample of Undergraduates	75
2. Descriptive Statistics for Predictor and Criterion Variables	77
3. Pearson Correlation Matrix of Student Characteristics, Predictors, and Criteria	78
4. Pearson Correlation Matrix of Predictor and Criterion Variables	79
5. Standard Multiple Regression Analysis of Satisfaction with Major	80
6. Standard Multiple Regression Analysis of Feelings of Preparedness	81
7. Standard Multiple Regression Analysis of Intention to Pursue Psychology	82
8. Hierarchical Multiple Regression Analysis of Satisfaction with Major Controlling for Student Characteristics	83
9. Hierarchical Multiple Regression Analysis of Feelings of Preparedness Controlling for Student Characteristics	84
10. Hierarchical Multiple Regression Analysis of Intention to Pursue Psychology Controlling for Student Characteristics	85
11. Standard Multiple Regression Analyses of Satisfaction with Major Comparing Age Groups	86
12. Standard Multiple Regression Analyses of Feelings of Preparedness Comparing Age Groups	87
13. Standard Multiple Regression Analyses of Intention to Pursue Psychology Comparing Age Groups	88
14. Standard Multiple Regression Analyses of Satisfaction with Major Comparing Emphasis Groups	89
15. Standard Multiple Regression Analyses of Feelings of Preparedness Comparing Emphasis Groups	90
16. Standard Multiple Regression Analyses of Intention to Pursue Psychology Comparing Emphasis Groups	91

Running Head: AN EXAMINATION OF THE PSYCHOLOGY MAJOR

An Examination of the Psychology Major and Affective

Outcomes Among Students

Georjanna J. Parkinson

San Jose State University

Abstract

This study evaluated the quality of the undergraduate psychology program at San Jose State University as perceived by its students. The relationships between five aspects of the psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, opportunities to gain experience) and three affective student outcomes (satisfaction with major, feelings of preparedness, intention to pursue psychology) were examined. After taking into account student characteristics (age, gender, ethnicity, area of emphasis in psychology), multiple regression analyses demonstrated that students' affective outcomes were more strongly influenced by their personal relationships with instructors than by instructional quality, skill development, or opportunities to gain experience. Subsequent analyses revealed that the influence of the five aspects of the psychology major on students' satisfaction with major and intentions to pursue psychology varied as a function of age and area of emphasis. The implications of these findings are discussed.

An Examination of the Psychology Major and Affective

Outcomes Among Students

As external pressures to document the quality of education continue to rise, program evaluations have become increasingly necessary to provide evidence that public and private funds for higher education are producing educated adults (Halpern, 1988; Sheehan & Granrud, 1995). University-level psychology departments, for example, traditionally rely upon measures of objective student outcomes, such as undergraduate attrition rates, grade point averages, acceptance rates into graduate programs, graduate record examination scores, and employment and occupational status among alumni, to evaluate the quality of their undergraduate psychology programs (McGovern & Carr, 1989; Quereshi, 1992; Sheehan, 1994). Although the results of these studies may satisfy external demands for objective assessment of the undergraduate psychology major, they do not provide insight into the quality of the educational experience as perceived by the student. In fact, little is known about the relationship between different aspects of the undergraduate psychology major and how these aspects relate to students' affective outcomes.

The purpose of this study was to examine how students' perceptions of their undergraduate education in psychology related to their affective outcomes. Specifically, this study examined the relationship between students' perceptions of five aspects of the undergraduate psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain

experience) and three affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology).

What Are Affective Outcomes?

Although measures of objective student outcomes may provide the ultimate litmus test of the quality of the undergraduate psychology major from the psychology department's perspective, students often look to outcomes external to their own academic achievement to substantiate the quality of their educational experience (Doll & Jacobs, 1998; Halpern, 1988). Unlike objective student outcomes, which are measures of observable behaviors, such as grade point average (GPA), graduate record examination (GRE) scores, acceptance rates into graduate programs, and occupational status among alumni, affective student outcomes are measures of the subjective assessments made by students regarding their educational experience, and are based on multiple factors salient from the student's perspective.

The affective outcomes, or criterion variables, examined in this study were: satisfaction with major, feelings of preparedness, and intention to pursue psychology. The criterion satisfaction with major was defined as: the extent to which students would, if they had their education to do over again, still choose to major in psychology. The criterion feelings of preparedness was defined as: the extent to which students feel their undergraduate education adequately prepared them to achieve future goals and employment in the field of psychology. The criterion intention to pursue psychology was defined as: the extent to which students plan to pursue graduate study and employment in the field of psychology.

Why Focus On Affective Outcomes?

Periodic reviews that focus on objective outcomes satisfy accrediting agencies, boards of trustees, curriculum committees, and state legislators, and they provide reasonable evidence of the quality of undergraduate psychology programs. So why is it important for psychology departments to consider students' affective outcomes?

Policy implications. One argument, made by Finaly-Neumann (1994), is based on the issue of pragmatics. Finaly-Neumann asserts that students' attitudes regarding their educational experience have important policy implications for universities because they may predict students' future relationship to the university as alumni (future enrollment commitment and financial support), as well as the general attractiveness of the university to new students (university image and desirability).

Preparing students for post-graduation realities. A second argument in favor of examining students' affective outcomes is the inherent responsibility of psychology departments to provide psychology undergraduates with a realistic picture of the opportunities for post graduation employment and graduate school acceptance in the field of psychology. The Education Directorate and Office of Public Communications of the American Psychological Association (1996) predicted that less than 10% of the approximate 65,000 graduating psychology majors would gain admission into graduate programs in psychology (cited in Gallucci, 1997). This panel also found that only 65% of psychology graduates indicated that their degree related well to their current job. Gallucci (1997) concluded that "The demand and competition for graduate training in clinical and counseling psychology has not decreased in two decades, whereas the

opportunities for practice have dwindled markedly due primarily to the influence of managed care, or the rationing of mental health services by insurance companies” (p. 880). Thus, many students receive bachelor’s degrees in psychology, yet few feel their degree relates well to their job; the demand for graduate training in psychology is high, however the probability of admission is low. To adequately prepare undergraduate students for these post-graduation realities, psychology departments must first understand the extent to which different aspects of the undergraduate psychology major relate to outcomes that are salient from and to the student’s perspective.

Comprehensiveness of assessment. A third argument for the empirical assessment of students’ affective outcomes is their usefulness in evaluating and comparing the numerous aspects of the undergraduate psychology major that may influence students’ perceptions of their educational experience. For example, Messer, Fishman, and McCrady (1992) identified three separate categories of aspects comprising an educational program in psychology: the “didactic,” the “social,” and the “experiential” (p. 359).

Didactic aspects refer to formal interactions with faculty whereby students receive systematic academic instruction. *Social* aspects refer to informal interactions with faculty whereby students receive personal, professional, and/or academic guidance. *Experiential* aspects refer to opportunities students have for involvement in internships, fieldwork, jobs, and/or research in the field of psychology. Furthermore, Halpern (1988) argued that “If the quality of an educational program is defined by how much it fosters student growth, then exit only measures (e.g., GREs, graduate school acceptance rates), when considered in isolation, tell us little about an institution’s contribution to the student’s

growth during the college years” (p.182). Therefore, examination of students’ affective outcomes, in addition to students’ objective outcomes, will result in a more comprehensive and accurate appraisal of the educational quality of the undergraduate psychology major as perceived by both students and administrators.

Satisfaction with the Psychology Major: The Didactic-Versus-Social Debate

The affective outcome that has received the greatest amount of attention by researchers has been satisfaction with the psychology major (Lunneborg & Wilson, 1985; McGovern & Carr, 1989; Quereshi, 1992; Sheehan & Granrud, 1995; Ogletree, 1998). Application of Messer et al.’s (1992) model to extant research identifying aspects of the psychology major that relate to student satisfaction shows that the majority of past research has focused on faculty members’ didactic and social interactions with students.

Past research, however, does not provide a definitive answer as to whether it is faculty members’ instructional skill (a didactic aspect) or their personal relationship with students (a social aspect) that more strongly influences student satisfaction. Quite the opposite, studies trying to identify determinants of student satisfaction have sparked a didactic-versus-social debate, further clouding the issue. For example, on the didactic side of the didactic-versus-social debate, Finaly-Neumann (1994) used a regression analysis to examine the extent to which different coursework characteristics predicted student satisfaction. Finaly-Neumann found that “feedback from instructors” was the strongest predictor of satisfaction, followed by smaller, though significant, beta weights for “task clarity” and “task identity” (p. 16). Task clarity refers to: (1) the predictability of the outcomes of or the responses to students’ behavior, and (2) the existence of clarity

of behavioral requirements to guide behavior and provide knowledge that the behavior is appropriate. Task identity refers to the extent to which students can clearly identify the results of their learning. Application of Messer et al.'s (1992) model to Finaly-Neumann's study shows that feedback from instructors, task clarity, and task identity may all be defined as didactic aspects.

Similarly, Sass (1989) examined 22 psychology classes comprised of more than 700 students and found that in each of these classes students listed the same eight factors as motivational to learning. Application of Messer et al.'s (1992) model to Sass's study shows that seven of these factors may be defined as didactic aspects; these were relevance of course material, variety of course material, use of appropriate examples, degree of instructor organization, preparedness, and enthusiasm, course difficulty level, and active involvement of students in the classroom. However, only one factor listed by the participants in Sass's study may be defined as a social aspect; this was instructor rapport.

Additionally, in an examination of students' pre-course expectations of instructors, Becker, Davis, Neal, and Grover (1990, p. 160) found that students were most concerned that instructors "make the course material understandable" (a didactic aspect); of lesser importance to students was that instructors be "patient, open-minded, and fair" (a social aspect).

Taken together, the results of the Finaly-Neumann (1994), Sass (1989), and Becker et al. (1990) studies suggest that instructors' teaching skill (i.e., the didactic side

of the didactic-versus-social debate) may be the most important factor in predicting student satisfaction.

On the other side of the didactic-versus-social debate, Winefield (1993) used a regression analysis to predict student satisfaction and found that “teacher support availability” (a social aspect) had the largest significant beta weight predicting student satisfaction (p. 225).

Additionally, Lunneborg and Wilson (1985, p. 17) measured student satisfaction by asking undergraduate psychology alumni: “If you had it to do over again, would you?” Although Lunneborg and Wilson found that 69% of the alumni sampled said they would major in psychology again, they also found that the undergraduate psychology degree was most valued by students because it contributed to “personal growth” (a social aspect) and valued least for “graduate preparation in psychology” (a didactic aspect).

Similarly, Quereshi (1988) asked college alumni to list the characteristics of outstanding instructors and concluded, “From the students’ perspective, faculty’s interpersonal attributes (e.g., care, concern, and support) overshadow academic and professional characteristics” (p. 121).

The results of the Winefield (1993), Lunneborg and Wilson (1985), and Quereshi (1988) studies lend support to the “social” side of the didactic-versus-social debate.

The difficulty in resolving the didactic-versus-social debate as it relates to the affective outcome of student satisfaction may be attributed to several methodological limitations of the previous studies. First, Quereshi (1988), Sass (1989), and Becker et al. (1990) used open-ended questionnaire formats, resulting in ranked lists of influential

instructor attributes (both didactic and social). This type of non-experimental research design does not provide an empirical assessment of which variables are more useful in predicting student satisfaction. Second, although Finaly-Neumann (1994) and Winefield (1993) used experimental research designs that incorporated predictive analyses, neither researcher included measures of both instructors' didactic and social skills; choosing instead to focus on measures of only one side of the didactic-versus-social debate.

The present study attempted to extend previous research by including measures of both didactic and social aspects of the undergraduate psychology major, in the forms of quality of instruction (didactic) and relationship with faculty (social), to predict satisfaction using the same criterion (satisfaction with major). Doing so allowed for a direct comparison of the relative importance of instructors' didactic and social skills, and thus, a more balanced assessment of the didactic-versus-social debate.

Other Didactic Aspects of the Psychology Major: General and Psychological Skill Development

In addition to examining didactic aspects of the undergraduate psychology major that relate to instructors' teaching skill (e.g., quality of instruction), it is also important to consider didactic aspects that relate to students' skill development. The psychology major is only one component of a larger liberal arts education intended to develop students' general academic skills, such as problem solving, analytical thinking, self-directed learning, humanistic/artistic appreciation, communication, consumer awareness, and planning and organization (Graham & Cockriel, 1989; Halpern, 1988; McGovern, Furumoto, Halpern, Kimble, & McKeachie, 1991).

It is also reasonable to expect that a principal goal of undergraduate psychology programs is to develop students' skills within the field of psychology, such as the ability to understand and apply psychological theories, to design, conduct, and analyze psychological research, and to write in American Psychological Association (APA) format (Halpern, 1988; Nelson & Johnson, 1997; Sheehan 1993).

Moreover, past research reveals that undergraduate psychology students not only share these expectations and goals, they also base their assessment of the quality of their undergraduate education in psychology on whether their program helped them to achieve these goals (Becker et al., 1990; McGovern & Hawks, 1986; Miller & Gentile, 1998). Despite these shared goals, the relationship between students' perceptions of their skill development and their affective outcomes has received little attention in past research.

The present study attempted to extend previous research by including measures of students' perceptions of their development of both general and psychological skills. Thus, three didactic aspects were measured in this study: quality of instruction, development of psychological skills, and development of general skills.

The Experiential Aspect of the Psychology Major

Although previous research has provided some insight into the influence of the didactic and social aspects of the psychology major, less is known about the influence of what Messer et al. (1992) labeled the "experiential" aspects of the psychology major, and how these aspects relate to students' affective outcomes. Quereshi's (1988) survey of psychology alumni found that students' "esteem of the psychology department" was positively correlated with the "effectiveness of career development within the program"

and the “helpfulness of the faculty advisor” (p. 121). Clements (1995) compared sections of a developmental psychology course that incorporated opportunities to gain experience to sections of the same course presented in a traditional, lecture-only format. Clements found that students who were afforded opportunities to gain experience rated the value of and interest in the subject matter higher, and the courtesy and consideration of the instructor significantly more positively, than did students who were not offered opportunities to gain experience.

The present study attempted to extend previous research by including a measure of the experiential aspect of the undergraduate psychology major (in the form of opportunities to gain experience in psychology-related jobs, internships, fieldwork, and/or research), in addition to measures of didactic and social aspects of the undergraduate psychology major.

Other Affective Outcomes: Student Preparedness and Intentions.

Unfortunately, there is a paucity of research on affective outcomes other than satisfaction with the psychology major. However, extant research on satisfaction with the psychology major has produced results that suggest the importance of examining other affective outcomes, such as feelings of preparedness to achieve future goals and employment in psychology and intention to pursue graduate study and employment in psychology. For example, Lamport (1993) conducted an extensive review of the research literature on college student outcomes and concluded that students’ relationships with faculty influenced not only students’ satisfaction, but also students’ intentions to pursue graduate study in psychology.

In addition, Kremer and Bringle (1990) evaluated 22 undergraduate psychology students' feelings of preparedness and intentions to pursue graduate study and employment in psychology after they had participated in a program that allowed them to work in a research setting 40 hours a week, on a one-to-one basis with psychology instructors. Kremer and Bringle used multivariate analysis of variance to compare participating students with a control group of demographically comparable non-participating students, and found that participating students were significantly more likely to pursue graduate study and employment in research-oriented universities and occupations. It is important to note, however, that due to the atypical nature of this experience (working 40 hour per week on a one-to-one basis with psychology instructors), it is difficult to generalize the results of Kremer and Bringle's study to the majority of students, who are not afforded this type of intensive experiential opportunity. What of psychology students enrolled in undergraduate programs that offer more typical, part-time opportunities to gain experience, or none at all?

The present study attempted to extend previous research by examining the relationship between the opportunities undergraduate psychology students have (or do not have) to engage in typical experiential activities (opportunities to gain experience) on multiple affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology).

Again, it should be noted that although the studies reviewed here provide evidence that didactic, social, and experiential aspects may all be important factors influencing students' perceptions of their educational experience in psychology, none

have provided a complete picture of how these different aspects of the psychology major relate to each other, or how they relate to multiple affective outcomes.

The present study attempted to extend previous research by using multivariate statistical techniques to compare the relative importance of *didactic* (quality of instruction, development of psychological skills, development of general skills), *social* (relationship with faculty), and *experiential* (opportunities to gain experience) aspects of the undergraduate psychology major on multiple affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology).

Student Characteristics and the Psychology Major

Past research on aspects of the psychology major and students' affective outcomes has also focused on differences occurring as a function of students' demographic characteristics (McGovern & Hawks, 1986; Quereshi, 1988; 1992; Winefield, 1993). This section will review past research that suggests that students' perceptions of their undergraduate experience in psychology may vary as a function of the student characteristics of gender, age, ethnicity, and area of emphasis within the psychology major.

Gender. Past research suggests that the influence of different aspects of the psychology major may vary as a function of students' gender. For example, McGovern and Hawks (1986) surveyed 260 psychology undergraduates about their expectations of the major and found that female students rated "receiving the best preparation for graduate school" and "getting practical experience in applied settings" as significantly more important than did male students (p. 177). These results suggest that didactic and

experiential aspects of the psychology major may be more salient concerns for female students than they are for male students.

There is also evidence that suggests that students' affective outcomes may vary as a function of gender. For example, Quereshi's (1988) survey of psychology alumni resulted in significant gender differences in students' intentions to pursue graduate study in psychology, with female students reporting more definite plans to pursue graduate study. However, in Quereshi's (1992) follow-up study, which included a measure of whether students actually applied for admission into graduate programs, Quereshi found a greater proportion of male students actually sought admission into graduate school than did female students.

The present study attempted to extend previous research by examining whether the influence of the five aspects of the psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain experience) on students' affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology) would vary as a function of students' gender. This exploration was accomplished by controlling for the influence of gender, before examining the influence of different aspects of the psychology major on students' affective outcomes.

Ethnicity. There is also evidence that suggests that the influence of different aspects of the psychology major may vary as a function of students' ethnicity. For example, McGovern and Hawks (1986) examined whether undergraduates' expectations of the psychology major varied depending on ethnicity and found that non-Caucasian

students rated “receiving vocational guidance from faculty” as significantly more important than did Caucasian students. McGovern and Hawks note that non-Caucasian students more than Caucasian students “expected to receive assistance on the use of their degree to build a career” (p. 178). The results of this study suggest that social aspects of the undergraduate psychology major may be of more salient concern for non-Caucasian students than they are for Caucasian students. However, this study did not explore the impact of ethnicity on students’ affective outcomes.

The present study attempted to extend the work of McGovern and Hawks (1986) by examining whether the influence of the five aspects of the psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain experience) on students’ affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology) would vary as a function of students’ ethnicity. This exploration was accomplished by controlling for the influence of ethnicity, before examining the influence of different aspects of the psychology major on students’ affective outcomes.

Age. Past research also suggests that the influence of different aspects of the psychology major on students’ affective outcomes may vary as a function of students’ age. For example, Winefield (1993) used a multiple regression analysis to predict satisfaction with study among older (23 years and up) university students. Satisfaction with study was measured using a modified version of Warr, Cook, and Wall’s (1979) Job Satisfaction Scale. Winefield found that the availability of teacher support (a social aspect) was the most important determinant of satisfaction, followed by postgraduate

status, financial hardship, and teacher support adequacy. However, what of younger undergraduate students? Would the availability of teacher support (a social aspect) be the most important determinant of satisfaction for younger students who are likely to be more fully integrated into the university setting, and thus, have more access to peer support on campus?

The present study attempted to extend the work of Winefield (1993) by examining whether the influence of the five aspects of the psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain experience) on students' affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology), would vary as a function of students' age. This exploration was accomplished in two ways. First, this study controlled for the influence of students' age, before examining the influence of different aspects of the psychology major on students' affective outcomes. Second, this study examined traditional (18-24) and mature (25+) students separately with regard to how the different aspects of the psychology major would influence each age group's affective outcomes. That is, students varying in age were compared with regard to the nature of the relationships between the five aspects of the psychology major and each of the three affective outcomes.

Area of emphasis. There is also evidence that suggests that the influence of different aspects of the psychology major on students' affective outcomes may vary as a function of students' area of emphasis within the psychology major (clinical emphasis versus non-clinical emphasis). For example, Gallucci (1997) found that "wanting to

become a professional psychologist” was second only to “having a strong interest in the subject matter of psychology” as the most important reason undergraduate students reported for majoring in psychology (p. 884). Although competition for graduate training in all areas of psychology is intense, competition for admission into clinical programs is particularly grueling, with some programs admitting as few as 4 candidates out of a pool of over 500 applicants (Braswell, 2001). Furthermore, required GPA and GRE scores are substantially higher for clinical applicants, and notably greater importance is placed on field and research experience for clinical applicants than for applicants in other areas of psychology (Kieth-Speigel & Wiederman, 2000; Braswell, 2001).

Despite the heightened level of competition clinical students face relative to their non-clinical counterparts, no studies have compared these two student populations with regard to differences in perceptions of the undergraduate experience in psychology. Is it possible that clinical students, faced with higher levels of competition, would be more strongly influenced by the aspects of the undergraduate psychology major relative to their non-clinical counterparts? Additionally, would the nature of the relationships between the aspects of major and students’ affective outcomes vary as a function of students’ area of emphasis within the psychology major?

The present study attempted to extend previous research by examining whether the influence of the five aspects of the psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain experience) on affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology) would vary as a

function of students' area of emphasis within the psychology major (clinical versus non-clinical). This examination was accomplished in two ways. First, this study controlled for the influence of students' area of emphasis, before examining the influence of the five aspects of the psychology major on students' affective outcomes. Second, this study examined clinical and non-clinical students separately with regard to how the five aspects of the psychology major influenced each emphasis groups' affective outcomes. That is, students varying in area of emphasis were compared with regard to the nature of the relationships between the five aspects of the psychology major and each of the three affective outcomes.

Taken together, the results of the studies reviewed thus far suggest that student characteristics (e.g., gender, ethnicity, age, area of emphasis) might play an important role in determining the influence of different aspects of the psychology major on students' affective outcomes. However, apart from Winefield (1993), the majority of these studies focused only on simple relationships using Pearson correlations, univariate analysis, and descriptive case studies. Thus, they cannot lend insight into the more complex relationships between student characteristics, different aspects of the psychology major, and students' affective outcomes. Overcoming this methodological limitation, Hatcher, Kryter, Prus, and Fitzgerald (1992) used a hierarchical multiple regression analysis to control for the influence of the student characteristics before examining whether "Investment Model Constructs" (e.g., perceived rewards, costs, investment size) would significantly predict student satisfaction. In step one of their regression analysis, Hatcher et al. found that only one student characteristic (race) resulted in a significant

beta weight. However, in step 2 of their regression analysis, after the investment model variables were added to the student characteristics, Hatcher et al. found that race failed to reappear as a significant determinant of student satisfaction.

The present study attempted to extend the work of Hatcher et al. (1992) in two ways. First, this study included measures of the student characteristics of age and area of emphasis within the psychology major, in addition to the student characteristics of gender and ethnicity. Second, this study included measures of the affective outcomes of feelings of preparedness and intention to pursue psychology, in addition to the affective outcome of satisfaction with major.

Summary

In summary, a review of the literature suggests that undergraduate psychology program evaluations would benefit from a more comprehensive assessment that includes examination of didactic, social, and experiential aspects of the major and their influence on students' affective outcomes. Additionally, a review of the literature suggests that the inconsistent findings of past studies examining the influence different aspects of the undergraduate psychology major on students' affective outcomes may be attributed to the variability of demographic characteristics comprising student samples. Therefore, past research substantiates the usefulness of the present study's investigation of the extent to which the influences of different aspects of the psychology major on students' affective outcomes may vary as a function of student characteristics.

Purpose and Hypotheses

The purpose of the present study was to examine how students' perceptions of their undergraduate education in psychology related to their affective outcomes. The primary objective of the present study was to examine the relationship between students' perceptions of five aspects of the undergraduate psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain experience) and three affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology).

Of particular interest was the comparison between *didactic* (quality of instruction, development of psychological skills, development of general skills), *social* (relationship with faculty), and *experiential* (opportunities to gain experience) aspects of the undergraduate psychology major. To examine these relationships, the present study tested the following hypotheses:

Hypothesis 1a. There will be a significant relationship between the five aspects of the psychology major and the affective outcome satisfaction with major.

Hypothesis 1b. There will be a significant relationship between the five aspects of the psychology major and the affective outcome feelings of preparedness.

Hypothesis 1c. There will be a significant relationship between the five aspects of the psychology major and the affective outcome intention to pursue psychology.

The secondary objective of the present study was to examine the influence of student characteristics (age, gender, ethnicity, and area of emphasis) on the relationships between the five aspects of the psychology major and each of the three affective

outcomes. The influence of student characteristics was examined by addressing two issues. The influence of student characteristics was first examined by addressing the issue of whether the relationships between the five aspects of the psychology major and each of the three affective outcomes would remain significant after student characteristics were controlled for. To address this issue, this study tested the following hypotheses:

Hypothesis 2a. After controlling for the influence of student characteristics (age, gender, ethnicity, and area of emphasis), there will be a significant overall relationship between the five aspects of the psychology major and the affective outcome satisfaction with major.

Hypothesis 2b. After controlling for the influence of student characteristics (age, gender, ethnicity, and area of emphasis), there will be a significant overall relationship between the five aspects of the psychology major and the affective outcome feelings of preparedness.

Hypothesis 2c. After controlling for the influence of student characteristics (age, gender, ethnicity, and area of emphasis), there will be a significant overall relationship between the five aspects of the psychology major and the affective outcome intention to pursue psychology.

The influence of student characteristics was next examined by addressing the issue of how the five aspects of the psychology major influenced the affective outcomes of students varying in age and area of emphasis within the psychology major. That is, students varying in age and area of emphasis were compared with regard to the nature of

the relationships between the five aspects of the psychology major and each of the three affective outcomes.

Following the work of Winefield (1993), it was expected that mature students face more financial responsibilities, are more likely to have spent a significant time away from the academic environment, are less integrated into the university setting, and have less access to peer support on campus. Furthermore, mature students, having had more time to develop their professional skills, should be more likely to view instructors as “peers,” be more apt to pursue social interaction with their instructors, and feel more reliant on their personal relationships with faculty. Moreover, it was expected that as students mature, they become increasingly comfortable with their basic academic responsibilities and should tend to focus less on the concrete, didactic aspects of the psychology major. Thus, for mature students, the social aspects of the psychology major should be the most influential predictors of affective outcomes. In addition, it was expected that mature students, having had more time to develop professional goals, and having had more exposure to the competitive nature of industry, should tend to focus more on experiential aspects of the psychology major.

Conversely, traditional students, having had less time to become comfortable with their basic academic responsibilities, being more fully integrated into the university setting, and having more access to peer support on campus, should tend to focus more on the concrete, didactic aspects of psychology major. Based on these assumptions, this study tested the following hypotheses:

Hypothesis 3a. For traditional students (18-24), the didactic aspects of the undergraduate psychology major (quality of instruction, development of psychological skills, and development of general skills) will be the most influential predictors of each of the three affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology).

Hypothesis 3b. For mature students (25+), the social (relationship with faculty) and experiential (opportunity to gain experience) aspects of the undergraduate psychology major will be the most influential predictors of each of the three affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology).

Extant research on the undergraduate psychology major has yet to investigate whether students' perceptions of the undergraduate psychology major differ as a function of their area of emphasis within the major. Given the increased level of competition clinical students face relative to non-clinical students, it was expected that clinical students' affective outcomes would be more strongly influenced by their perceptions of their undergraduate experience in psychology. That is, the relationships between the five aspects of the psychology major and the three affective student outcomes should be stronger for clinical students relative to non-clinical students. Based on these assumptions, this study tested the following hypotheses:

Hypothesis 4a. For clinical students, there will be a stronger significant relationship between the five aspects of the psychology major and the affective outcome satisfaction with major than for non-clinical students.

Hypothesis 4b. For clinical students, there will be a stronger significant relationship between the five aspects of the psychology major and the affective outcome feelings of preparedness than for non-clinical students.

Hypothesis 4c. For clinical students, there will be a stronger significant relationship between the five aspects of the psychology major and the affective outcome intention to pursue psychology than for non-clinical students.

Method

Data Source

Participants in the present study were selected from an existing pool of previously collected and archived data. These archived data were originally collected by student researchers enrolled in a graduate-level Applied Psychometrics course at San Jose State University, under the supervision of Dr. Howard Tokunaga, in partial fulfillment of course requirements. Subsequent to collection, the data were archived by Dr. Tokunaga for future use.

Procedure in the Original Sampling

Graduate student researchers collected data from 274 students enrolled in upper-division "capstone" psychology courses. The student researchers informed participants as to the general nature of the study (i.e., that the study was concerned with examining students' perceptions of the undergraduate psychology major at San Jose State University), advised participants that participation in the study was voluntary, and that there were no penalties for declining participation. The student researchers also advised participants that a unique subject number would identify each study packet, and should

they agree to participate in the study, participant identities would remain anonymous. Participants were then asked to read an informational cover letter that served as informed consent before completing and returning the study survey.

Procedure in the Present Study

Selection of participants was based on the following criteria. Identification of potential participants as: (1) senior-level undergraduate students and (2) psychology majors. Five participants did not meet these criteria and were removed from the sample before analysis. To further ensure participant anonymity, the data were screened prior to analysis to guarantee that no participant possessed a conspicuous or “potentially identifiable” combination of demographic characteristics. No participants possessed a conspicuous or potentially identifiable combination of demographic characteristics.

Participants

Participants were 269 (Male = 68, Female = 201) undergraduate students majoring in psychology at San Jose State University and reported a mean age of 27.4 years (demographic data for the sample are presented in Table 1). The average participant in this study was most likely to be a single, Caucasian, female, enrolled in full-time study emphasizing the non-clinical area of psychology, working part-time, with plans to begin full-time work or enter into a master’s program immediately after graduation.

Instruments

Data were collected using a self-report paper and pencil survey. This survey was devised by Dr. Tokunaga and the aforementioned group of graduate students, and was

based on examples in the literature (see Graham & Cockriel, 1989; Sheehan, 1994). The survey items, organized by scale, are presented in the Appendix.

Predictor Variables (Aspects of Major)

Quality of instruction (14 items). These items asked participants to rate the quality of instruction received in psychology courses by indicating their level of agreement with 14 statements presented on a 6-point Likert-type scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree. These statements addressed such factors as whether instructional material was intellectually challenging, whether instructors were well prepared, knowledgeable, provided feedback to students, used relevant and up-to-date textbooks and supplemental course materials, and whether the courses were relevant to the participants' goals and interests. Mean responses were calculated for each participant, with higher scores indicating more positive ratings of quality of instruction. A Cronbach alpha of .88 was calculated for this scale, indicating good internal consistency.

Development of psychological skills (14 items). These items asked participants to rate their level of ability on 14 psychology-related skills and knowledge areas in terms of how these skills and knowledge areas were affected by experiences within the psychology major. These items were presented on a 5-point Likert-type scale with 1 = Poor, 2 = Below Average, 3 = Average, 4 = Above Average, and 5 = Excellent. The skills and knowledge areas addressed by this scale were participants' ability to understand and apply psychological theories, to design, conduct, and analyze psychological research, and to write in APA format. Mean ratings were calculated for

each participant, with higher scores indicating greater development of psychological skills. A Cronbach alpha of .87 was calculated for this scale, indicating good internal consistency.

Development of general skills (12 items). These items asked participants to indicate the extent to which majoring in psychology contributed to their level of ability in skills such as reading, writing, and speaking effectively, working independently, working in a group, time management, and problem solving. Items were presented on a 5-point Likert-type scale, with 1 = Not at All, 2 = Slightly, 3 = Somewhat, 4 = Generally, and 5 = Very Much. Mean ratings were calculated for each participant, with higher scores reflecting greater development of general skills. A Cronbach alpha of .92 was calculated for this scale, indicating very good internal consistency.

As noted previously, quality of instruction, development of psychological skills, and development of general skills represented didactic aspects of the psychology major.

Relationship with faculty (10 items). These items asked participants to rate the quality of the relationships they had with psychology department faculty. Items were presented on a 6-point Likert-type scale with 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree. These items addressed such factors as participants' level of comfort in approaching faculty members outside of the classroom, the extent to which participants felt that faculty members were aware of their future goals, and whether participants felt they had received useful advice from faculty members. Mean responses were calculated for each participant, with higher

scores indicating a more positive relationship with faculty. A Cronbach alpha of .86 was calculated for this scale, indicating good internal consistency.

As noted previously, the relationship with faculty items represented a social aspect of the psychology major.

Opportunities to gain experience (5 items). These items measured the extent to which participants felt they were made aware of opportunities to gain experience in psychology-related jobs, internships, fieldwork, and/or research, as well as whether there were adequate opportunities to participate in these activities. These items did not ask if the participant actually took part in these activities, as the concern of this instrument was the channels of communication in the psychology department, rather than the number of opportunities available at any given point in time. Using the same 6-point scale as above, mean responses were calculated for each participant, with higher scores reflecting greater awareness of opportunities to gain experience. These items also gave participants the option to indicate a "Not Applicable" response. A Cronbach alpha of .90 was calculated for this scale, indicating very good internal consistency.

As noted previously, the extent to which students were aware of opportunities to gain experience in psychology represented an experiential aspect of the psychology major.

Criterion Variables (Affective Outcomes)

Participants responded to three criterion measures: (1) satisfaction with major, (2) feelings of preparedness, and (3) intention to pursue psychology. All three criterion variables were measured on a 6-point Likert-type scale with 1 = Strongly Disagree, 2 =

Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree, with higher scores reflecting greater satisfaction with major, feelings of preparedness, and intention to pursue psychology.

Satisfaction with major. This criterion measure was the response to the item, "If I had to do my education over again, I would still choose to major in psychology."

Feelings of preparedness. This criterion measure was the mean of responses to two items. The first item asked participants whether their education had adequately prepared them to meet future goals. The second item asked participants whether their education had adequately prepared them for future employment in a position related to psychology.

Intention to pursue psychology. This criterion measure was the mean of responses to two items. The first item asked participants whether they intended to go on to a graduate program in the field of psychology. The second item asked participants whether they intended to seek employment in a position related to psychology.

Demographic Variables (Student Characteristics)

Participants' age, gender, ethnicity, and area of emphasis within the psychology major were recorded. Table 1 illustrates the coding system used to categorize participants into analysis groups.

Participants were also asked to report general demographic information, such as marital status (single, married, separated/divorced, widowed), enrollment status (full time, part time), employment status (full time, part time, unemployed), and future plans

(work, enter a master's program, enter a doctoral program, other). General demographic information is also presented in Table 1.

Results

Descriptive Statistics

Table 2 presents descriptive statistics for the predictor (aspects of the major) and criterion (affective outcomes) variables. In terms of the predictors, participants reported the most positive ratings of quality of instruction, with slightly lower, but still positive, ratings of development of general skills, development of psychological skills, and relationship with faculty. Participants reported the least positive ratings of their opportunities to gain experience, with the average reported score in this scale falling just below the scale mid point. With regard to the criterion variables, participants' expressed moderately strong levels of satisfaction with major, feelings of preparedness, and intentions to pursue psychology. These results indicate that the participants in this study held generally positive attitudes about the quality of their undergraduate education in psychology, felt satisfied with their major, felt prepared to achieve future goals and employment in psychology, and intended to do so after graduation.

Pearson Correlations

Table 3 presents a Pearson correlation coefficient matrix of student characteristics, predictor variables (aspects of major), and criterion variables (affective outcomes). Students' age and gender were unrelated to either the predictor or the criterion variables, however several significant correlations involving age and gender helped further define the demographic nature of the sample. Age demonstrated

significant negative relationships with student ethnicity ($r = -.18, p < .01$) and area of emphasis ($r = -.14, p < .05$), indicating that the majority of non-Caucasian participants in this sample were younger, and that the older participants in this sample were more likely to declare a clinical emphasis in their study of psychology. Additionally, students' gender was significantly related to ethnicity ($r = -.14, p < .05$), indicating that the non-Caucasian participants in this sample tended to be male.

Ethnicity, although unrelated to the three criterion variables, demonstrated significant positive relationships with four of the predictor variables. Ethnicity was most strongly correlated with opportunities to gain experience ($r = .28, p < .01$), then, to a lesser degree, with development of psychological skills ($r = .16, p < .05$), relationship with faculty ($r = .15, p < .05$), and development of general skills ($r = .13, p < .05$). These results suggest that non-Caucasian students may be more strongly influenced by these four aspects of the major, and provide partial support of the findings of previous research (McGovern and Hawks, 1986).

Students' area of emphasis demonstrated significant negative relationships with the predictor variable relationship with faculty ($r = -.14, p < .05$), as well as with all three of the criterion variables: satisfaction with major ($r = -.20, p < .01$), feelings of preparedness ($r = -.16, p < .05$), and intention to pursue psychology ($r = -.26, p < .01$). These results indicate that non-clinical students felt generally less positive about their relationship with faculty, less satisfied with their major, less prepared to achieve future goals and employment in psychology, and reported fewer intentions to do so, than did their clinical counterparts.

Table 4 presents a Pearson correlation coefficient matrix of the predictor and criterion variables. Overall, the strongest relationships in this matrix were found among the criterion variables (lower right portion of the matrix), which all demonstrated significant positive relationships with each other. These results indicate a great deal of interrelatedness among the three measures of students' affective outcomes.

The relationships among the predictor variables showed a similar pattern of results, in that each of the five aspects of the psychology major demonstrated significant positive correlations with each other (upper left portion of the matrix). However, only the predictor variable relationship with faculty consistently demonstrated moderate to strong correlations with all of the other aspects of the major, supporting the findings of Lamport's (1993) research.

Also highly correlated were the predictor variables development of psychological skills and development of general skills ($r = .50, p < .05$). The weakest relationships among the predictor variables were associated with opportunities to gain experience, which demonstrated a strong correlation only with relationship with faculty ($r = .51, p < .05$). In addition, the predictor variables quality of instruction and development of psychological skills demonstrated only a moderate relationship ($r = .33, p < .05$). These results suggest that students' concern about their opportunities to gain experience, while strongly related to their relationship with faculty, and, to a lesser degree, with their assessment of instructional quality, may be distinct from their concerns about skill development.

With regard to the relationships between the predictor and criterion variables, all three criterion variables (satisfaction with major, feelings of preparedness, and intention to pursue psychology) were more strongly related to the predictor variable relationship with faculty than with any of the other predictor variables. Among these relationships, the strongest correlation was found between the predictor relationship with faculty and the criterion feelings of preparedness ($r = .56, p < .05$). This predictor's relationships to the other criterion variables, although still significant, are notably weaker. These results indicate that although relationship with faculty (a social aspect) may be the most influential aspect of the psychology major, there may be a notable difference in the extent to which it influences each affective outcome.

In terms of the individual pattern of relationships among the criterion variables and predictor variables, the criterion satisfaction with major, as noted above, was most strongly correlated with relationship with faculty ($r = .37, p < .05$), then, to a lesser degree, with development of general skills ($r = .33, p < .05$), development of psychological skills ($r = .27, p < .05$), and quality of instruction ($r = .23, p < .05$). However, satisfaction with major was unrelated to opportunities to gain experience ($r = .12, p = ns$).

A similar pattern of results was found for the criterion intention to pursue psychology; however, all of the relationships were weaker than with those of satisfaction with major. These results suggest there may be a stronger link between students' perceptions of their educational experience (aspects of major) and their evaluation of their education (satisfaction with major), than students' assessment of how their

educational experiences (aspects of major) influenced their intentions to pursue graduate study and employment in psychology (intention to pursue psychology).

A slightly different pattern of results was found for the criterion feelings of preparedness. As noted previously, this criterion was most strongly correlated with the predictor relationship with faculty ($r = .56, p < .05$), as were the other two criterion variables. However, after relationship with faculty, feelings of preparedness was most strongly correlated with quality of instruction ($r = .49, p < .05$), then, to a lesser degree, with development of psychological skills ($r = .44, p < .05$), and development of general skill ($r = .40, p < .05$); and unlike the other two criterion variables, feelings of preparedness was significantly related to students' awareness of opportunities to gain experience ($r = .37, p < .05$). Additionally, feelings of preparedness demonstrated stronger correlations with each of the five predictors than did the other two criterion variables. These results suggest the link between students' perceptions of their educational experiences (aspects of major) and their assessment of how well prepared they were by those experiences (feelings of preparedness) may be stronger than either their evaluation of their education (satisfaction with major) or their assessment of how their educational experiences influenced their future intentions (intention to pursue psychology). Furthermore, although all three affective outcomes were most strongly related to students' relationship with faculty, students' feelings of preparedness demonstrated stronger relationships with instructional quality and opportunities to gain experience, than did the other two criterion variables. These results indicate that feelings

of preparedness to achieve future goals and employment in psychology may be the most sensitive barometer of students' perceptions of their educational experience.

Standard Multiple Regression Analyses

Satisfaction with major. Hypothesis 1a predicted that there would be a significant relationship between the five aspects of the psychology major and the affective student outcome satisfaction with major. To test this hypothesis, a standard multiple regression analysis was conducted with the five aspects of major as the predictors, and students' self-report of satisfaction with major as the criterion. The results of this analysis showed a significant relationship, supporting Hypothesis 1a (see Table 5), with the five aspects of major accounting for 19% of the variance in satisfaction with major [$R = .44$, $R^2 = .19$, $F(5,245) = 11.80$, $p < .001$]. However, only three predictors resulted in significant beta weights. Relationship with faculty ($\beta = .31$, $p < .001$) emerged as the strongest predictor of satisfaction with major, followed by development of general skills ($\beta = .17$, $p < .05$) and opportunities to gain experience ($\beta = -.14$, $p < .05$), with the resulting negative beta weight for this predictor indicating that increased awareness of opportunities to gain experience was associated with significantly lower levels of satisfaction with major. Quality of instruction ($\beta = .03$, $p = ns$) and development of psychological skills ($\beta = .12$, $p = ns$) were unrelated to satisfaction with major. These results indicate that although didactic, social, and experiential aspects of major were all significantly related to satisfaction, the social aspect of relationship with faculty was the most influential aspect of major and the strongest predictor of students' satisfaction with the psychology major.

Feelings of preparedness. Hypothesis 1b predicted that there would be a significant relationship between the five aspects of the psychology major and the affective student outcome feelings of preparedness. To test this hypothesis, a standard multiple regression analysis was conducted with the five aspects of major as the predictors, and the self-report of feelings of preparedness as the criterion. As presented in Table 6, the results of this analysis showed a significant relationship, supporting Hypothesis 1b, with the five aspects of major accounting for 41% of the variance in feelings of preparedness [$R = .64$, $R^2 = .41$, $F(5,246) = 34.53$, $p < .001$]. Students' feelings of preparedness were most strongly influenced by relationship with faculty ($\beta = .33$, $p < .001$). However, smaller, though still significant, beta weights were also found for quality of instruction ($\beta = .23$, $p < .001$) and development of psychological skills ($\beta = .21$, $p < .001$). Neither development of general skills ($\beta = .03$, $p = ns$) nor opportunities to gain experience ($\beta = .03$, $p = ns$) were uniquely related to feelings of preparedness. These results indicate that although both didactic and social aspects were significantly related to feelings of preparedness, the social aspect of relationship with faculty was the most influential aspect of major and the best predictor of students' feelings of preparedness to achieve future goals and employment in psychology.

Intention to pursue psychology. Hypothesis 1c predicted that there would be a significant relationship between the five aspects of the psychology major and the affective student outcome intention to pursue psychology. To test this hypothesis, a standard multiple regression analysis was conducted with the five aspects of major as the predictors, and the self-report of intention to pursue psychology as the criterion. The

results of this analysis showed a significant relationship, supporting Hypothesis 1c (see Table 7), with the five aspects of major accounting for 14% of the variance in intention to pursue psychology [$R = .37$, $R^2 = .14$, $F(5,246) = 7.96$, $p < .001$]. However, after taking into account the interrelatedness among the five aspects of major, only relationship with faculty ($\beta = .31$, $p < .001$) was uniquely related to intention to pursue psychology. These results indicate the social aspect of relationship with faculty was the most influential aspect of major and the best predictor of students' intentions to pursue graduate study and employment in psychology.

Hierarchical Multiple Regression Analyses Controlling for Student Characteristics

Before entering the set of five predictors (aspects of major) into each of the following analyses, four student characteristics were first controlled for: age, gender (1 = Male, 2 = Female), ethnicity (1 = Caucasian, 2 = Non-Caucasian), and area of emphasis within the psychology major (1 = Clinical, 2 = Non-Clinical).

Satisfaction with major. Hypothesis 2a predicted that after controlling for the influence of student characteristics, there would continue to be a significant relationship between the five aspects of the psychology major and the affective outcome satisfaction with major. To test this hypothesis a hierarchical multiple regression analysis was conducted. Table 8 shows the variables entered and results for each step of this analysis. In step one of the hierarchical regression, student characteristics accounted for a significant, although small (4%), proportion of the variance in satisfaction with major [$R = .20$, $R^2 = .04$, $F(4,239) = 2.75$, $p < .05$]. However, only one student characteristic--area of emphasis--was uniquely related to satisfaction with major, with the resulting negative

beta weight ($\beta = -.19, p < .01$) indicating that non-clinical students reported significantly lower levels of satisfaction than did clinical students.

In step two of the hierarchical regression, after controlling for the influence of student characteristics, a significant relationship was found between the five aspects of major and the affective outcome satisfaction with major, supporting Hypothesis 2a [$R = .47, R^2 = .22, F(9,234) = 7.23, p < .001$]. This step of the regression analysis showed that the five aspects of major accounted for an additional 17% of variance above and beyond the amount of variance accounted for by the set of student characteristics [$\Delta R^2 = .17, F_{\text{cha}}(5,234) = 10.38, p < .001$]. The student characteristic of area of emphasis continued to be a significant predictor of satisfaction with major in step two of the analysis ($\beta = -.13, p < .05$), with the negative beta weight indicating that non-clinical students were significantly less satisfied with the psychology major than were clinical students. However, two aspects of major, the social aspect of relationship with faculty ($\beta = .30, p < .001$) and the didactic aspect of development of general skills ($\beta = .20, p < .01$) emerged as more influential predictors of satisfaction with major than the student characteristic of area of emphasis. This pattern of results was consistent with those found in the standard multiple regression analysis using the five aspects of major as the predictors and satisfaction with major as the criterion (see Table 5), which showed that the social aspect of relationship with faculty, and the didactic aspect of development of general skills, were the strongest predictors of satisfaction with major. Interestingly, unlike the results of the previous standard multiple regression analysis, which showed the experiential aspect of opportunities to gain experience as a significant (and inverse) predictor of

satisfaction with major, this analysis, which controlled for the influence of student characteristics, revealed that opportunities to gain experience was unrelated ($\beta = -.12, p = ns$) to students' satisfaction with the psychology major. These results indicate that although social and didactic aspects of major were better predictors of satisfaction with major--again, with the social aspect of relationship with faculty emerging as the most influential aspect of major--satisfaction with major also varied as a function of students' area of emphasis within the psychology major.

Feelings of preparedness. Hypothesis 2b predicted that after controlling for the influence of student characteristics, there would continue to be a significant relationship between the five aspects of the psychology major and the affective outcome feelings of preparedness. To test this hypothesis, a hierarchical multiple regression analysis was conducted. Table 9 presents the variables entered and results for each step of this analysis. In step one of the hierarchical regression, student characteristics accounted for a small, but significant, proportion (5%) of the variance in feelings of preparedness [$R = .22, R^2 = .05, F(4,240) = 3.15, p < .05$], with the student characteristics of ethnicity and area of emphasis yielding significant beta weights. The student characteristic of ethnicity was positively associated with feelings of preparedness ($\beta = .14, p < .05$), indicating that Caucasian students felt lower levels of feelings of preparedness than non-Caucasian students. The student characteristic of area of emphasis was negatively associated with feelings of preparedness ($\beta = -.17, p < .01$), indicating that non-clinical students felt significantly lower levels of feelings of preparedness than clinical students.

In step 2 of the hierarchical regression, after controlling for the influence of student characteristics, a significant relationship was found between the five aspects of major and the affective outcome feelings of preparedness, supporting Hypothesis 2b [$R = .66$, $R^2 = .44$, $F(9,235) = 20.21$, $p < .001$]. This step of the regression analysis revealed that the five aspects of major accounted for an additional 39% of variance above and beyond the amount of variance accounted for by the set of student characteristics [$\Delta R^2 = .39$, $F_{\text{cha}}(5,235) = 32.26$, $p < .001$]. However, in step two, the student characteristics of ethnicity and area of emphasis failed to reappear as significant predictors of feelings of preparedness, supporting the findings of previous research (Hatcher et al., 1992).

Consistent with the previous standard multiple regression using the five aspects of major as the predictors, and the affective outcome feelings of preparedness as the criterion (see Table 6), this analysis also resulted in the predictor relationship with faculty yielding the largest significant beta weight ($\beta = .32$, $p < .001$), followed by quality of instruction ($\beta = .21$, $p < .01$), and development of psychological skills ($\beta = .20$, $p < .01$). These results indicate that the didactic and social aspects of major were better predictors of students' feelings of preparedness to achieve future goals and employment in psychology than were student characteristics, with the social aspect of relationship with faculty again emerging as the most influential aspect of major.

Intention to pursue psychology. Hypothesis 2c predicted that after controlling for the influence of student characteristics, there would continue to be a significant relationship between the five aspects of the psychology major and the affective outcome intention to pursue psychology. To test this hypothesis, a hierarchical multiple regression

analysis was conducted. Table 10 presents the variables entered and results for each step of this analysis. In step one of the hierarchical regression, student characteristics accounted for a significant proportion (8%) of the variance in intention to pursue psychology [$R = .29$, $R^2 = .08$, $F(4,240) = 5.52$, $p < .001$]. However, the only student characteristic uniquely associated with intention to pursue psychology was area of emphasis, with this predictor yielding a negative beta weight ($\beta = -.27$, $p < .001$), indicating that non-clinical students reported significantly fewer intentions to pursue graduate study and employment in psychology than did clinical students.

In step 2 of the hierarchical regression analysis, after controlling for the influence of student characteristics, a significant relationship was found between the five aspects of major and the affective outcome intention to pursue psychology, supporting Hypothesis 2c [$R = .43$, $R^2 = .18$, $F(9,235) = 5.86$, $p < .001$]. This step of the regression analysis showed that the five aspects of major accounted for an additional 10% of variance above and beyond the amount of variance accounted for by the set of student characteristics [$\Delta R^2 = .10$, $F_{\text{cha}}(5,235) = 5.70$, $p < .001$]. Although area of emphasis continued to be a significant predictor ($\beta = -.22$, $p < .001$) of intention to pursue psychology in step two of the analysis, one aspect of major, the social aspect of relationship with faculty, emerged as a more influential predictor ($\beta = .27$, $p < .01$) of students' intentions. This pattern of results was consistent with those found in the previous standard multiple regression analysis using the five aspects of major as the predictors and intention to pursue psychology as the criterion (see Table 7), which showed only one aspect of the psychology major, the social aspect of relationship with faculty, was uniquely related to

students' intentions to pursue graduate study and employment in psychology. These results indicate that although the social aspect of relationship with faculty was the most influential predictor of students' intentions to pursue psychology, these intentions also varied as a function of students' area of emphasis within the major.

Standard Multiple Regression Analyses Comparing Age Groups

To accomplish the age group comparisons, standard multiple regression analyses were conducted separately for the two age groups (18-24 vs. 25+), with the five aspects of the psychology major as the predictors, and the three affective outcomes as the criteria. These analyses tested Hypothesis 3a, which predicted that for traditional students (18-24), the didactic aspects of the psychology major (quality of instruction, development of psychological skills, and development of general skills) would be the most influential predictors of the three affective outcomes, and Hypothesis 3b, which predicted that for mature students (25+), the social (relationship with faculty) and experiential (opportunities to gain experience) aspects of the major would be the most influential predictors of each of the three affective student outcomes.

Satisfaction with major. Table 11 presents the results of the two standard multiple regression analyses comparing traditional (18-24) and mature (25+) students, using the five aspects of the psychology major as the predictors and satisfaction with major as the criterion. For traditional students, the didactic aspect of development of psychological skills ($\beta = .31, p < .05$) emerged as the most influential predictor of satisfaction with major, providing partial support for Hypothesis 3a [$R = .43, R^2 = .18, F(5,132) = 5.92, p < .001$]. However, contrary to Hypothesis 3a, this analysis resulted in non-significant

beta weights for the remaining didactic aspects of quality of instruction ($\beta = -.06, p = ns$) and development of general skills ($\beta = .01, p = ns$), whereas the social aspect of relationship with faculty ($\beta = .25, p < .05$) was found to be the second strongest predictor of traditional students' satisfaction with major. These results indicate that traditional students distinguished themselves by being primarily concerned with the didactic aspect of development of psychological skills and secondarily concerned with the social aspect of relationship with faculty when assessing their satisfaction with the psychology major.

For mature students, the social aspect of relationship with faculty ($\beta = .41, p < .001$) was the most influential predictor of satisfaction with major, providing partial support for Hypothesis 3b [$R = .55, R^2 = .31, F(5,104) = 9.26, p < .001$]. However, contrary to Hypothesis 3b, the didactic aspect of development of general skills ($\beta = .37, p < .001$) emerged as the second most influential predictor of satisfaction with major and a stronger predictor of mature students' satisfaction with major than the experiential aspect of opportunities to gain experience; with the resulting negative beta weight for opportunities to gain experience ($\beta = -.25, p < .05$) indicating that increased awareness of opportunities to gain experience was associated with significantly lower levels of satisfaction among mature students. These results provide only partial support for Hypothesis 3b, however, they do mirror those presented earlier for the total sample in the standard multiple regression analysis for this criterion (see Table 5). These results also indicate that mature students' distinguished themselves by being primarily concerned with the social aspect of relationship with faculty, secondarily concerned with the

didactic aspect of development of general skills, and responding to increased awareness of opportunities to gain experience with significantly lower levels of satisfaction.

Feelings of preparedness. Table 12 shows the results of the two standard multiple regression analyses comparing traditional (18-24) and mature (25+) students, using the five aspects of the psychology major as the predictors and feelings of preparedness as the criterion. For traditional students, the didactic aspect of development of psychological skills ($\beta = .34, p < .001$) emerged as the most influential predictor of feelings of preparedness, providing partial support of Hypothesis 3a [$R = .66, R^2 = .43, F(5,132) = 19.95, p < .001$]. The second strongest predictor of traditional students' feelings of preparedness was quality of instruction ($\beta = .25, p < .01$), followed by relationship with faculty ($\beta = .23, p < .01$). Non-significant beta weights were found for development of general skills ($\beta = .15, p = ns$) and opportunities to gain experience ($\beta = .00, p = ns$). These results provide partial support for Hypothesis 3a, in that two didactic aspects of the major (development of psychological skills and quality of instruction) were more salient concerns for traditional students than were the social and experiential aspects of the major. However, contrary to expectations, the didactic aspect of development of general skills ($\beta = -.06, p = ns$) was unrelated to traditional students' feelings of preparedness, whereas the social aspect of relationship with faculty ($\beta = .23, p < .01$) was significantly related to traditional students' feelings of preparedness. These results indicate that traditional students distinguished themselves by being primarily concerned with didactic aspects of the major and secondarily concerned with the social aspect of relationship with

faculty when assessing their feelings of preparedness to achieve future goals and employment in psychology.

For mature students, only one predictor, relationship with faculty, was significantly related ($\beta = .45, p < .001$) to feelings of preparedness [$R = .67, R^2 = .45, F(5,105) = 17.47, p < .001$]. These results provide only partial support for Hypothesis 3b, in that the social aspect of relationship with faculty was the most influential aspect of the psychology major for mature students. However, contrary to expectations, the experiential aspect of opportunities to gain experience ($\beta = .00, p = ns$) did not significantly influence mature students' feelings of preparedness. These results indicate mature students' distinguished themselves by being singularly concerned with the social aspect of relationship with faculty when assessing their feelings of preparedness to achieve future goals and employment in psychology.

Intention to pursue psychology. Table 13 presents the results of the two standard multiple regression analyses comparing traditional (18-24) and mature (25+) students, using the five aspects of the psychology major as the predictors and intention to pursue psychology as the criterion. The results for traditional students were found to be opposite of those predicted by Hypothesis 3a [$R = .38, R^2 = .15, F(5,132) = 4.50, p < .01$]. Although traditional students' intentions to pursue psychology were significantly related to the didactic aspect of development of psychological skills ($\beta = .25, p < .05$), traditional students' intentions were more strongly related to the social aspect of relationship with faculty ($\beta = .28, p < .01$). These results indicate that although the social aspect of relationship with faculty was the most salient aspect of major influencing traditional

students' intentions to pursue graduate study and employment in psychology, the didactic aspect of development of psychological skills remained an important, albeit secondary concern.

For mature students, only one predictor, relationship with faculty, was significantly related ($\beta = .32, p < .01$) to intention to pursue psychology [$R = .41, R^2 = .16, F(5,105) = 4.12, p < .01$]. These results provide partial support for Hypothesis 3b, in that the social aspect of relationship with faculty was the most influential aspect of the major for mature students. However, contrary to expectations, the experiential aspect of opportunities to gain experience ($\beta = -.14, p = ns$) did not significantly influence mature students' intentions to pursue graduate study and employment in psychology. These results do, however, mirror those found in the previous standard and hierarchical multiple regression analyses for this criterion (see Tables 7 and 10). These results indicate that mature students' distinguished themselves by being singularly concerned with the social aspect of relationship with faculty when assessing their intentions to pursue graduate study and employment in psychology.

Standard Multiple Regression Analyses Comparing Emphasis Groups

To accomplish the area of emphasis group comparisons, standard multiple regression analyses were conducted separately for the two emphasis groups (clinical vs. non-clinical), with the five aspects of the psychology major as the predictors, and the three affective outcomes as the criteria. Post hoc hierarchical regression analyses were then performed to test the significance of the differences in the R -squares obtained for the two emphasis groups. These analyses tested Hypotheses 4a, 4b, and 4c, for clinical

students, there would be stronger significant relationships between the five aspects of the psychology major and each of the three affective outcomes than for non-clinical students.

Satisfaction with major. Table 14 shows the results of the two standard multiple regression analyses comparing clinical and non-clinical students, using the five aspects of the psychology major as the predictors and satisfaction with major as the criterion. The results of these analyses showed a significant relationship between the five aspects of major and the affective outcome satisfaction with major for both clinical [$R = .49$, $R^2 = .24$, $F(5,90) = 5.60$, $p < .001$] and non-clinical [$R = .44$, $R^2 = .19$, $F(5,149) = 6.96$, $p < .001$] students. However, a post hoc analysis revealed that the difference in R -squares obtained for both groups was non-significant [$\Delta R^2 = .02$, $F_{\text{cha}}(5,239) = 1.33$, $p = .25$, ns]. These results indicate that the overall relationship between the five aspects of major and the affective outcome satisfaction with major was *not* significantly stronger for clinical students relative to their non-clinical counterparts. Thus, Hypothesis 4a was not supported.

Examination of the beta weights for these analyses (see Table 14) indicates that clinical students' satisfaction with major was most strongly influenced by the social aspect of relationship with faculty ($\beta = .41$, $p < .01$), then, to a lesser degree, by the experiential aspect of opportunities to gain experience ($\beta = -.30$, $p < .01$), followed by the didactic aspect of development of psychological skills ($\beta = .24$, $p < .05$). The resulting significant negative beta weight found for the predictor opportunities to gain experience indicates that increased awareness of opportunities to gain experience was associated with significantly lower levels of satisfaction among clinical students, and this mirrors

results presented earlier for the total sample in the standard multiple regression analysis of this criterion (see Table 5). For non-clinical students, however, satisfaction with major was influenced equally by the didactic aspect of development of general skills ($\beta = .27, p < .01$) and the social aspect of relationship with faculty ($\beta = .27, p < .01$).

Feelings of preparedness. Table 15 presents the results of the two standard multiple regression analyses comparing clinical and non-clinical students using the five aspects of the psychology major as the predictors and feelings of preparedness as the criterion. The results of these analyses showed that there was a significant relationship between the five aspects major and the affective outcome feelings preparedness for both clinical [$R = .69, R^2 = .48, F(5,90) = 16.61, p < .001$] and non-clinical [$R = .63, R^2 = .40, F(5,150) = 20.14, p < .001$] students. However, a post hoc analysis revealed that the difference in R -squares obtained for both groups was non-significant [$\Delta R^2 = .03, F_{\text{cha}}(5,240) = 2.16, p = .06, ns$]. These results indicate that the overall relationship between the five aspects of major and the affective outcome feelings of preparedness was *not* significantly stronger for clinical students relative to non-clinical students. Thus, Hypothesis 4b was not supported.

Examination of the beta weights for these analyses (see Table 15) indicates that clinical students' feelings of preparedness were most strongly influenced by the didactic aspects of quality of instruction ($\beta = .35, p < .001$) and development of psychological skills ($\beta = .33, p < .01$). However, non-clinical students' feelings of preparedness were more strongly influenced by the social aspect of relationship with faculty ($\beta = .37, p <$

.001), then, to a lesser degree, by the didactic aspect of quality of instruction ($\beta = .17, p < .05$).

Intention to pursue psychology. Table 16 shows the results of the two standard multiple regression analyses comparing clinical and non-clinical students, using the five aspects of the psychology major as the predictors and intention to pursue psychology as the criterion. The results of these analyses showed that there was a significant relationship between the five aspects of major and the affective outcome intention to pursue psychology for both clinical [$R = .48, R^2 = .27, F(5,90) = 5.27, p < .001$] and non-clinical [$R = .33, R^2 = .11, F(5,150) = 3.68, p < .01$] students. However, a post hoc analysis revealed that the difference in R-squares obtained for both groups was non-significant [$\Delta R^2 = .01, F_{\text{cha}}(5,240) = .84, p = .52, ns$]. These results indicate that the overall relationship between the five aspects of major and the affective outcome intention to pursue psychology was *not* significantly stronger for clinical students relative to non-clinical students. Thus, Hypothesis 4c was not supported.

Examination of the beta weights for these analyses (see Table 16) indicates that the social aspect of relationship with faculty was the strongest predictor of intention to pursue psychology for both clinical ($\beta = .51, p < .001$) and non-clinical ($\beta = .22, p < .05$) students. However, while relationship with faculty was the only aspect of major to demonstrate a unique relationship with non-clinical students' intentions, clinical students intentions were also significantly influenced by the experiential aspect of opportunities to gain experience ($\beta = -.33, p < .01$); with the resulting negative beta weight indicating that

increased awareness of opportunities to gain experience was associated with significantly reduced intentions to pursue psychology among clinical students.

Discussion

The purpose of this study was to examine how students' perceptions of their undergraduate education in psychology related to their affective outcomes. The following sections summarize this study's findings, discuss its implications, and provide an evaluation of its strengths and limitations.

Findings of the Study

The primary objective of the present study was to examine the relationship between students' perceptions of five aspects of the undergraduate psychology major (quality of instruction, development of psychological skills, development of general skills, relationship with faculty, and opportunities to gain experience) and three affective outcomes (satisfaction with major, feelings of preparedness, and intention to pursue psychology). Of particular interest was a direct comparison of the relative importance of *didactic* (quality of instruction, development of psychological skills, development of general skills), *social* (relationship with faculty), and *experiential* (opportunities to gain experience) aspects of the psychology major.

It was hypothesized that there would be a significant relationship between the five aspects of the psychology major and each of the three affective outcomes. The results of three standard multiple regression analyses demonstrated that the five aspects of the psychology major accounted for a significant proportion of explained variance in each of the three affective outcomes, thus supporting Hypotheses 1a, 1b, and 1c. These analyses

also revealed that the social aspect (relationship with faculty) was the most influential aspect of the psychology major and the strongest predictor of all three affective outcomes. Specifically, the more positive students felt about the quality of their personal relationships with faculty, the more likely they were to be satisfied with their major, feel prepared to achieve future goals and employment in psychology, and intend to do so after graduation.

Satisfaction with major. With regard to the didactic-versus-social debate as it relates to the affective outcome of satisfaction with the psychology major, the results of the present study provide support for previous research findings concluding that it is instructors' personal relationship with students, rather than their instructional skill, that more strongly influences students' satisfaction with the psychology major (Lunneborg & Wilson, 1985; Quereshi, 1988; Winefield, 1993).

It is important to note, however, that although a direct comparison of the relative importance of didactic, social, and experiential aspects showed that the social aspect (relationship with faculty) was the most influential predictor of students' satisfaction with major, didactic and experiential aspects were *also* significant predictors of this affective outcome.

In accordance with Becker et al. (1990), McGovern and Hawks (1986), and Miller and Gentile (1998), the results of the present study demonstrated that satisfaction with major was significantly influenced by students' perceptions of their development of general skills, with higher ratings of development of general skills associated with increased satisfaction with major.

Unexpectedly, however, satisfaction with major was found to be unrelated to the other didactic aspects of quality of instruction and development of psychological skills. The non-significant relationship between quality of instruction and satisfaction with major was particularly unexpected in that it contradicts the findings of past research (Finally-Neuman, 1994; Sass, 1989; Becker et al., 1990). A possible explanation for these findings may be that a large proportion (44.6 %) of the students sampled in this study expected to begin work immediately after graduation. It may be that students' orientation toward immediate employment may lead to heightened concerns regarding the development of more "marketable" general skills that overshadow students' concerns regarding instructional quality and development of psychological skills.

An additional unexpected finding of the present study was that the experiential aspect of major (opportunities to gain experience) was associated with significantly *lower* levels of satisfaction with major. This result challenges the assertion put forth by both Clements (1995) and Quereshi (1988) that opportunities to gain experience positively impact students' satisfaction with the psychology major. The present study found the opposite to be the case. There are several possible explanations for this finding. First, it is possible that when students' find their expectations of experiential opportunities are disparate with the largely unglamorous, repetitive, and often tedious reality of the work characterizing entry-level jobs, internships, fieldwork, and research in psychology, they become dissatisfied with the psychology major. Second, the number of students desiring these opportunities often far outnumbers the positions available. Thus, some students may become dissatisfied with the psychology major when their awareness of

opportunities to gain experience in their field does not necessarily lead to securing a position that would allow them to do so. Third, students who do manage to gain experience in psychology-related jobs, internships, fieldwork, and research may simply have more occasions to discover the field is a poor fit with their aptitude, temperament, or talents, and thus, come to regret their choice of major.

Feelings of preparedness. With regard to affective outcome of feelings of preparedness to achieve future goals and employment in psychology, this study found that both didactic and social aspects were significantly related to this affective outcome--again, with the social aspect (relationship with faculty) emerging as the most influential aspect of the psychology major and the strongest predictor of students' feelings of preparedness. With regard to the direction of this relationship, more positive ratings of relationship with faculty were associated with stronger feelings of preparedness. However, in the case of this affective outcome, it was two different didactic aspects--quality of instruction and development of psychological skills, and *not* development of general skills--that were significant predictors of students' feelings of preparedness. Interestingly, students' awareness of opportunities to gain experience was unrelated to their feelings of preparedness. Taken together, these results may be explained by the fact that, as noted previously, the number of students seeking experiential opportunities often far outnumbers available positions. It may be that students have no choice but to disconnect their assessment of their feelings of preparedness with their level of experience in psychology-related jobs, internships, fieldwork, and research; choosing

instead to focus on the quality of education received and their degree of psychological skill development.

Intention to pursue psychology. With regard to affective outcome of intention to pursue graduate study and employment in psychology, only one aspect of the psychology major, the social aspect (relationship with faculty), was uniquely related to students' intentions, with more positive ratings of relationship with faculty associated with increased intentions to pursue psychology. This finding contradicts those of Kremer and Bringle (1990) who found that opportunities to gain experience positively impacted students' intentions to pursue graduate study and employment in psychology. A possible explanation for this contradiction may be the differences in methodologies used in the present study and those used in Kremer and Bringle's study. Specifically, Kremer and Bringle's study examined the effect of an "intensive" research experience on students' intentions to pursue psychology, whereas the present study examined opportunities to gain experience in terms of more typical, part-time opportunities. Additionally, unlike Kremer and Bringle's study, the present study examined the extent to which students were aware of opportunities to gain experience in psychology-related jobs, internships, fieldwork, and/or research, and whether students felt there were adequate opportunities to participate in these activities; this study did *not* ask whether students actually took part in these activities. Nevertheless, the finding that students' intentions to pursue graduate study and employment in psychology were most strongly influenced by their relationships with faculty is in accordance with the findings of past research (Lamport, 1993).

Student characteristics. The secondary objective of the present study was to examine the influence of student characteristics (age, gender, ethnicity, area of emphasis) on the relationships between the five aspects of the psychology major and each of the three affective outcomes. The influence of student characteristics was first examined by addressing the issue of whether the relationships between the aspects of major and students' affective outcomes would remain significant even after student characteristics were controlled for. It was hypothesized that after controlling for the influence of student characteristics (age, gender, ethnicity, and area of emphasis), there would continue to be a significant overall relationship between the five aspects of the psychology major and each of the three affective outcomes. The results of the three hierarchical regression analyses revealed that student characteristics accounted for a small, but significant proportion of the explained variance in each of the three affective outcomes. However, these analyses also demonstrated that after the influence of student characteristics were controlled for, there continued to be a significant relationship between the five aspects of the psychology major and each of the three affective outcomes, thus supporting Hypotheses 2a, 2b, and 2c. Moreover, the addition of the five aspects of major into the hierarchical regression analyses led to significant increases in the amount of explained variance in all three affective outcomes. Taken together, these results indicate that the five aspects of the psychology major were better predictors of students' affective outcomes than were student characteristics.

As with the previous standard regression analyses, the three hierarchical regression analyses revealed that the social aspect of major (relationship with faculty)

was the most influential aspect of the psychology major for all three criteria, with more positive ratings of relationship with faculty associated with increased satisfaction, preparedness, and intentions to pursue psychology. When combined, these findings provide strong support for the assertion that it is the social aspects of the psychology major (e.g., teacher support availability, faculty's interpersonal skills) that are of preeminent concern to students regarding not only their satisfaction with major--as concluded by Lunneborg and Wilson (1985), Quereshi (1988), and Winefield (1993)--but also their feelings of preparedness, and intentions to pursue psychology.

The results of the three hierarchical regression analyses also showed that only one student characteristic (area of emphasis) remained a significant predictor of two affective outcomes (satisfaction with major and intention to pursue psychology), once the influence of the five aspects of major was considered. Furthermore, none of the student characteristics analyzed remained a significant predictor of the affective outcome of feelings of preparedness, once the five aspects of major were entered into the analysis. The resulting negative beta weights for students' area of emphasis in two of the three hierarchical regression analyses revealed that overall, non-clinical students were significantly *less* satisfied with the psychology major and had *fewer* intentions to pursue graduate study and employment in psychology. Although somewhat unexpected, these findings may simply be a reflection of stronger levels of commitment on the part of clinical students who have already made the decision to specialize within their field, and are dedicated to pursuing future graduate study and employment in clinical psychology. It should also be noted that, taken together, these findings are in accordance with the

results of past research concluding that the influence of student characteristics is diminished once the influence of aspects of the psychology major are considered (Hatcher et al., 1992). Nevertheless, it is also important to recognize that until now past research has not compared students varying in area of emphasis within the major with regard to possible differences in perceptions of the major or differences in affective outcomes. Given the ability of students' area of emphasis to significantly predict two of the three affective outcomes in this study (satisfaction with major and intention to pursue psychology), it appears that a closer examination of possible differences in the perceptions and affective outcomes of these two student populations is clearly warranted.

Interestingly, unlike the results of the standard regression analysis, which showed that the experiential aspect (opportunities to gain experience) was a significant predictor of satisfaction with major, the hierarchical regression analysis of satisfaction with major resulted in a non-significant beta weight for opportunities to gain experience. When combined, these results suggest that the influence of opportunities to gain experience on students' satisfaction with major may vary as a function of students' area of emphasis within the psychology major. This possibility will be explored in greater detail in the section of this discussion that compares clinical students to non-clinical students with regard to differences in the nature of the relationships between the five aspects of major and each of the three affective outcomes.

The influence of student characteristics was next examined by addressing the issue of how the aspects of major influenced the affective outcomes of students varying in age and area of emphasis within the psychology major. That is, students varying in

age and area of emphasis were compared with regard to the nature of the relationships between the five aspects of major and each of the three affective outcomes.

Traditional versus mature students. As predicted by Hypothesis 3a, the present study found that for traditional students, the didactic aspects of the major were the most influential predictors of two of the three affective outcomes analyzed; these were satisfaction with major and feelings of preparedness. More positive ratings of didactic aspects were associated with increased satisfaction with major and feelings of preparedness. However, contrary to expectations, the present study found that the social aspect of major (relationship with faculty) was the strongest predictor of traditional students' intentions to pursue graduate study and employment in psychology, with more positive ratings of relationship with faculty associated with increased intentions. These results provide some support for the assertion that traditional students tend to focus more on the concrete, didactic aspects of their education in psychology. However, it is also important to recognize that although didactic aspects were of more concern to traditional students with regard to their satisfaction with major and feelings of preparedness, the social aspect of relationship with faculty was also a significant predictor of these affective outcomes. These results indicate that even among younger students, who are likely to be more fully integrated into the university setting, the social aspect of major (relationship with faculty) is the strongest predictor of traditional students' intentions to pursue graduate study and employment in the field of psychology, and still a significant factor influencing traditional students' satisfaction with major and feelings of preparedness.

As predicted by Hypothesis 3b, and in accordance with Winefield (1993), the present study demonstrated that for mature students, the social aspect of major (relationship with faculty) was the strongest predictor of all three affective outcomes, with more positive ratings of relationship with faculty associated with increased satisfaction with major, feelings of preparedness, and intentions to pursue psychology. However, contrary to expectations, the present study also found that the social aspect of relationship with faculty was the *only* significant predictor of mature students' feelings of preparedness and intentions to pursue psychology. That is, contrary to Hypothesis 3b, the present study demonstrated that the experiential aspect (opportunities to gain experience) was *unrelated* to mature students' preparedness and intentions. Although unexpected, these findings may simply be a reflection of mature students' greater reliance on their personal relationships with faculty. Another possible explanation for these findings may be that mature students, having had more time to develop their academic and professional goals, and having more professional experience, may be less likely to allow external factors (i.e., awareness of opportunities to gain experience) to influence their self perceptions regarding feelings of preparedness and intentions to pursue psychology.

Another unexpected finding was that, for mature students, the experiential aspect of opportunities to gain experience was a significant *inverse* predictor of satisfaction with major. That is, increased awareness of opportunities to gain experience was associated with significantly *lower* levels of satisfaction with the psychology major among mature students. A possible explanation for this finding may be that older students, under considerably more pressure to finalize career decisions, may become particularly

dissatisfied with the psychology major when, as noted earlier, either the realities of psychology-related experiential activities are disparate with students' expectations, or when students' awareness of opportunities to gain experience in their field does not necessarily lead to securing a position that would allow them to do so.

It is interesting to note that with regard to the affective outcome of satisfaction with major, didactic aspects were of significant concern to both traditional and mature students. This finding was expected for traditional students; however it was unexpected for mature students. Traditional and mature students did, however, differ on which didactic aspect they were most concerned with. Traditional students were more concerned with their development of psychological skills, while mature students were more concerned with their development of general skills. A possible explanation for this finding is that, as noted previously, mature students may be under considerably more pressure to enter the workforce, and thus, are particularly focused on acquiring more "marketable" general skills.

Clinical versus non-clinical students. Standard multiple regression analyses demonstrated that there were significant relationships between the five aspects of major and each of the three affective outcomes for both clinical and non-clinical students. However, post hoc analyses revealed that the overall relationships between the five aspects of major and each of the three affective outcomes were *not* significantly stronger for clinical students relative to their non-clinical counterparts. Thus, Hypotheses 4a, 4b, and 4c were not supported.

Although the relationships between the aspects of major and the three affective outcomes were not significantly stronger for clinical students relative to non-clinical students, these analyses did reveal notable differences in the nature of the relationships between the five aspects of major and the three affective outcomes when comparing clinical students to non-clinical students. For example, with regard to the affective outcome of satisfaction with major, although skill development was of significant concern to both clinical and non-clinical students, these two groups differed on which skills they were most concerned with. Clinical students were more concerned with their development of psychological skills, whereas non-clinical students were more concerned with their development of general skills. The finding that clinical students were more concerned with their development of psychological skills than their development of general skills may be explained by the increased pressure clinical students face with regard to admission into graduate programs in clinical psychology. It is likely that clinical students' motivation to be adequately prepared for the impending graduate application process overshadows concerns regarding the development of more general academic skills. However, it is also important to recognize that with regard to the affective outcome of satisfaction with major, clinical students were primarily concerned with the social aspect of major relationship with faculty, whereas the didactic aspect of development of general skills and the social aspect of relationship with faculty equally influenced non-clinical students' satisfaction. One possible explanation for this finding may be that clinical students, engaged in the highly competitive process of admission into graduate programs in clinical psychology, are greatly dependent on letters of

recommendation from faculty, and thus, are likely to be particularly concerned with the quality of their relationships with faculty members.

Additionally, with regard to the affective outcome of feelings of preparedness, clinical students distinguished themselves by being more concerned with the didactic aspects of quality of instruction and development of psychological skills than by the social aspect of relationship with faculty. This was not true of non-clinical students, whose feelings of preparedness were most strongly influenced by their relationships with faculty, then, to a lesser degree, by quality of instruction. These results provide additional support for the assertion that clinical students, being aware of the increased competition involved in gaining admission into graduate programs in clinical psychology, tend to focus more on the didactic aspects of the major, particularly those related to instructional quality and skill development within their field, when assessing their feelings of preparedness.

Furthermore, with regard to the affective outcome of intention to pursue psychology, although both clinical and non-clinical students were most strongly influenced by the social aspect (relationship with faculty), relationship with faculty was the *only* significant predictor of non-clinical students' intentions, whereas clinical students were also concerned with the experiential aspect of opportunities to gain experience. A possible explanation for this result may be that clinical students are under considerably more pressure to augment their undergraduate records and graduate applications with participation in extra-curricular experiential activities (i.e., psychology-related internships, fieldwork, and research). Thus, clinical students who estimate their

experience in the field to be less than adequate with regard to the impending graduate application process may have fewer intentions to pursue graduate study and employment in psychology, perhaps choosing to postpone the process until they can further enhance their graduate applications.

Finally, among clinical students, increased awareness of opportunities to gain experience was associated with significantly *lower* levels of satisfaction with major and fewer intentions to pursue psychology. This result provides insight into the discrepancy found between the previous standard multiple regression, which showed that opportunities to gain experience negatively impacted satisfaction with major, and the hierarchical multiple regressions, which failed to replicate this finding, but *did* demonstrate that area of emphasis was a significant (and inverse) predictor of satisfaction with major and intention to pursue psychology. Taken together, these results indicate that the influence of opportunities to gain experience on the affective outcomes of satisfaction with major and intention to pursue psychology varied as a function of students' area of emphasis within the psychology major.

Summary

When combined, the results of this study present several noteworthy conclusions. First, it appears that faculty's willingness and ability to forge supportive relationships with their students outside of the classroom was crucial and of preeminent concern to students with regard to their satisfaction with the psychology major, their feelings of preparedness to achieve future goals and employment in psychology, and their intentions to pursue graduate study and employment in psychology. Second, increased awareness

of opportunities to gain experience in psychology-related jobs, internships, fieldwork, and/or research (or perhaps, increased awareness of the lack thereof) was associated with decreased satisfaction with major, particularly for those students emphasizing the clinical area of the psychology major. Third, among clinical students, opportunities to gain experience were also associated with fewer intentions to pursue graduate study and employment in psychology. Fourth, there were notable difference in the nature of the relationships between the five aspects of the psychology major and each of the three affective outcomes when comparing students varying in age and area of emphasis within the major. Finally, the influence of the experiential aspect of the psychology major on students' satisfaction with major and intentions to pursue psychology varied as a function of students' area of emphasis within the major.

Implications of the Study

Practical implications. The findings of the present study have several practical implications for psychology departments and instructors. First, in light of the finding that under most circumstances students' affective outcomes tend to be most strongly influenced by their relationships with faculty, instructors should take steps to increase their availability to students beyond traditional didactic interaction. Additionally, psychology departments should take steps to ensure that instructors are adequately trained *and* compensated with regard to their interpersonal and advising skills. In this vein, psychology departments should consider including measures of instructors' interpersonal and advising skills in performance evaluations, in addition to more

traditional measures of the size and number of grants, the number of scholarly publications, and student ratings of instructional skill.

Second, it is essential that instructors take into account the demographic characteristics of their students. Instructors should recognize that improving their relationships with students means not only increasing the *quantity* of one-on-one interaction with students, but also the *quality* of their interaction with students. This means that instructors should be particularly aware that students' didactic, social, and experiential concerns tend to vary depending on their age and area of emphasis within the major.

Third, although increased awareness of opportunities to gain experience was shown, in some cases, to negatively impact students' affective outcomes, it is *not* recommended that psychology departments do not make students aware of opportunities to gain experience. Quite the opposite, the field of psychology, as well as its students, benefit from providing students as many opportunities as possible to assess the "goodness of fit" between students' skills, abilities, and aptitudes and future employment in psychology-related careers and/or pursuit of graduate study. Additionally, the shortage of opportunities for undergraduate students to gain experience in psychology-related jobs, internships, fieldwork, and research, unfortunately, quite accurately reflects the overcrowded nature of this field, particularly the clinical area of psychology. Although every effort should be made by psychology departments to provide psychology undergraduates with experiential opportunities, the lack thereof can be considered an honest portrayal of

the number of opportunities for post graduation employment and graduate school acceptance in the field of psychology.

Theoretical implications. The findings of the present study also have several theoretical implications for undergraduate psychology program evaluators. First, an evaluation of previous studies showed that past research has not provided a clear picture of whether it is faculty members' instructional skill (a didactic aspect) or their personal relationship with students (a social aspect) that more strongly influences students' affective outcomes. Although, the present study demonstrated that in most cases, the social aspect of the major was strongest predictor of students' affective outcomes, didactic and experiential aspects were also significant predictors students' satisfaction, preparedness, and intentions. Furthermore, the present study revealed that nature of the relationships between the didactic, social, experiential aspects of the psychology major and each of the three affective outcomes, often varied as a function of student characteristics. When combined, the findings of the present study provide strong support for Messer et al.'s (1992) theoretical framework, in which didactic, social, and experiential factors are examined concurrently with regard to their ability to influence students' affective outcomes. Additionally, the findings of the present study indicate that there is a clear need for future research to assess the moderating and interactive effects of student characteristics--particularly students' age and area of emphasis--on the relationships between aspects of the psychology major and students' affective outcomes.

Second, it is important to note that student characteristics, when considered in isolation, accounted for only a small proportion of the variance in students' affective

outcomes. However, the addition of the five aspects of the psychology major into the hierarchical regression analyses led to significant increases in the amount of explained variance in all three affective student outcomes; a 17% increase in satisfaction with major, a 39% increase in students' feelings of preparedness, and a 10% increase in intention to pursue psychology. Given the considerable ability of the five aspects of the psychology major to explain the variance in students' affective outcomes, program evaluators should seriously consider the utility of including these factors when evaluating the quality of their undergraduate psychology programs.

Evaluation of the Study

Strengths of the study. A principal strength of the present study was the examination of multiple predictor and criterion variables. The examination of didactic, social, and experiential aspects provided a more balanced assessment of the didactic-versus-social debate as it related to students' affective outcomes. Additionally, this study included an assessment of affective outcomes, which have until now, received little attention in past research, such as feelings of preparedness and intention to pursue psychology. Furthermore, this study yielded valuable information with regard to the considerable impact of social interaction between faculty and students, and the somewhat surprising *inverse* relationship found between opportunities to gain experience and students' affective outcomes.

Another benefit of the present study was its use of predictive analyses. By moving beyond descriptive and univariate analysis, this study was able to provide a

clearer picture of the relative importance of didactic, social, and experiential aspects of the psychology major as they related to students' affective outcomes.

Limitations of the study. A notable methodological limitation of the present study was the demographic nature of its participants. Because of the relatively large proportion of older and employed students at San Jose State University, the sample of students in this study may not be representative of those that would be found at more traditional, "research-focused" universities. Therefore, replication of this study is necessary to ensure adequate external validity. Specifically, future studies of the undergraduate psychology major would benefit from an examination the perceptions of psychology students from universities varying in size, location, and professional focus (research versus clinical), including evaluations of both public and private universities.

Additionally, although it was not a consideration in the present study, future studies examining the undergraduate psychology major would also benefit from the measurement of both affective and objective criteria. For example, it would be of particular interest to include a measure of student GPA, and control for the influence of this student characteristic before examining the influence of aspects of the psychology major on students' affective outcomes.

Finally, in light of the finding that increased awareness of opportunities to gain experience negatively impacted students' satisfaction with major, and was of particular detriment to clinical students' satisfaction and intentions to pursue graduate study and employment in psychology, two additional avenues of investigation would be valuable. First, future studies would benefit from an assessment of the extent to which aspects of

the psychology major and students' affective outcomes influence whether or not students actually complete the graduate application process. Second, future studies would benefit from an examination of students' opportunities to gain experience from an objective perspective, in addition to an affective one. That is, future studies should include a measure of whether or not students actually engaged in psychology-related jobs, internships, fieldwork, and/or research, in addition to a measure of the extent to which students' were made aware of such opportunities. Examining these two variables concurrently would allow for an assessment of the impact of any shortage of available experiential opportunities.

Conclusion

Psychology departments have traditionally relied upon measures of objective student outcomes (e.g., grade point averages, acceptance rates into graduate programs, graduate record examination scores, and employment and occupational status among alumni) to substantiate the quality of their undergraduate psychology programs. This study attempted to provide insight into the quality of the educational experience as perceived by the student by examining the relationships between different aspects of the undergraduate psychology major and how these aspects related to students' affective outcomes. By doing so, it was demonstrated that equal attention should be given to students' concerns regarding the didactic, social, and experiential aspects of the psychology major. In addition, it was shown that students' attitudes regarding their experience of the undergraduate psychology major were a result of the interactions between the individual experiences and characteristics students' brought to their

undergraduate study, students' personal relationships with instructors during their time as an undergraduate, and the academic and professional goals students had for the future.

References

- Becker, A. H., Davis, S. F., Neal, L., & Grover, C. A. (1990). Student expectations of course and instructor. *Teaching of Psychology, 17*(3), 159-162.
- Braswell, M. (Ed.). (2001). *Graduate study in psychology, 2000-2001: With 2001 Addendum*. Washington, DC: American Psychological Association.
- Clements, A. D. (1995). Experiential-learning activities in undergraduate developmental psychology. *Teaching of Psychology, 22*(2), 115-118.
- Doll, P. A., & Jacobs, K. W. (1988). The exit interview for graduating seniors. *Teaching of Psychology, 15*(4), 213-214.
- Finally-Neumann, E. (1994). Course work characteristics and students' satisfaction with instruction. *Journal of Instructional Psychology, 21*(1), 14-24.
- Gallucci, N. T. (1997). An evaluation of the characteristics of undergraduate psychology majors. *Psychological Reports, 81*(3, Pt 1), 879-889.
- Graham, S. W., & Cockriel, I. (1989). College outcome assessment factors: An empirical approach. *College Student Journal, 23*(3), 280-288.
- Halpern, D. F. (1988). Assessing student outcomes for psychology majors. *Teaching of Psychology, 15*(4), 181-186.
- Hatcher, L., Kryter, K., Prus, J. S., & Fitzgerald, V. (1992). Predicting college student satisfaction, commitment, and attrition from investment model constructs. *Journal of Applied Social Psychology, 22*(16), 1273-1296.
- Keith-Spiegel, P., & Wiederman, M. W. (2000). *The complete guide to graduate school admission: Psychology, counseling, and related professions* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Kremer, J. F., & Bringle, R. G. (1990). The effects of an intensive research experience on the careers of talented undergraduates. *Journal of Research and Development in Education, 24*(1), 1-5.
- Lamport, M. A. (1993). Student-faculty informal interaction and the effect on college student outcomes: A review of the literature. *Adolescence, 28*(112), 971-990.
- Lunneborg, P. W., & Wilson, V. M. (1985). Would you major in psychology again? *Teaching of Psychology, 12*(1), 17-20.

- McGovern, T. V., & Carr, K. F. (1989). Carving out the niche: A review of alumni surveys on undergraduate psychology majors. *Teaching of Psychology, 16*(2), 52-57.
- McGovern, T. V., & Hawks, B. K. (1986). The varieties of undergraduate experience. *Teaching of Psychology, 13*(4), 174-181.
- McGovern, T. V., Furumoto, L., Halpern, D. F., Kimble, G. A., & McKeachie, W. J. (1991). Liberal education, study in depth, and the arts and sciences major: Psychology. *American Psychologist, 46*(6), 598-605.
- Miller, B., & Gentile, B. F. (1998). Introductory course content and goals. *Teaching of Psychology, 25*(2), 89-96.
- Messer, S. B., Fishman, D. B., & McCrady, B. S. (1992). Evaluation-based planning of professional psychology training program: A model and case example. *Evaluation and Program Planning, 15*(4), 357-367.
- Nelson, E. S., & Johnson, K. A. (1997). A senior exit survey and its implications for advising and related services. *Teaching of Psychology, 24*(2), 101-105.
- Ogletree, S. M. (1998). Using alumni surveys to evaluate and improve the psychology major. *College Student Journal, 32*(2), 215-221.
- Quereshi, M. Y. (1988). Evaluation of an undergraduate psychology program: Occupational and personal benefits. *Teaching of Psychology, 15*(3), 119-123.
- Quereshi, M. Y. (1992). Gender differences in surveys of psychology baccalaureates: An update. *Psychological Reports, 70*(2), 383-386.
- Sass, E. J. (1989). Motivation in the college classroom: What students tell us. *Teaching of Psychology, 16*(2), 86-88.
- Sheehan, E. P. (1993). Assessment in the major: a model psychology program. *College Student Journal, 27*(2), 256-258.
- Sheehan, E. P. (1994). A multimethod assessment of the psychology major. *Teaching of Psychology, 21*(2), 74-78.
- Sheehan, E. P., & Granrud, C. E. (1995). Assessment of student outcomes: Evaluating an undergraduate psychology program. *Journal of Instructional Psychology, 22*(4), 366-372.

Warr, P. B., Cook, J. D., & Wall, T. D. (1979). Scale for the measurement of some work attitudes and aspects of psychological well-being. *Journal of Occupational Psychology*, 52(2), 129-148.

Winefield, H. R. (1993). Study-work satisfaction and psychological distress in older university students. *Work and Stress*, 7(3), 221-228.

Table 1

Demographic Data for the Sample of Undergraduates

Variables	<i>N</i>	%
STUDENT CHARACTERISTICS		
Age (in years)	<i>M</i> = 27.4	<i>SD</i> = 7.67
Age		
Traditional (18-24) = 1	147	55.7 %
Mature (25+) = 2	117	44.3 %
Gender		
Male = 1	68	25.3 %
Female = 2	201	74.7 %
Ethnicity		
Caucasian = 1	156	59.1 %
Non-Caucasian = 2	108	40.9 %
Area of Emphasis		
Clinical = 1	100	37.2 %
Non-Clinical = 2	169	62.8 %
GENERAL DEMOGRAPHICS		
Ethnicity (as reported)		
African American	5	1.9 %
Hispanic	40	15.2 %
Asian/Pacific Islander	35	13.3 %
Native American	3	1.1 %
Caucasian	156	59.1 %
Other	25	9.5 %

Demographic Data for the Sample of Undergraduates (Continued)

Variables	<i>N</i>	%
Marital Status		
Single	199	74.5 %
Married	51	19.1 %
Separated/Divorced	16	6.0 %
Widowed	1	0.4 %
Enrollment Status		
Full-time	229	85.4 %
Part-time	39	14.6 %
Employment Status		
Full-time	60	22.4 %
Part-time	168	62.7 %
Unemployed	40	14.9 %
Hours Worked Per Week	<i>M</i> = 26.7	<i>SD</i> = 10.4
Future Plans		
Work	119	44.6 %
Enter Master's Program	105	39.3 %
Enter Doctoral Program	23	8.6 %
Other	20	7.5 %

Table 2

Descriptive Statistics for Predictor and Criterion Variables

Variables	Range	N	Mean	SD
Predictors (Aspects of Major)				
Quality of Instruction	(2.29 - 6.00)	269	4.69	0.60
Psychological Skills	(2.00 - 5.00)	268	3.85	0.55
General Skills	(1.00 - 5.00)	268	3.91	0.77
Relationship with Faculty	(1.00 - 6.00)	269	3.89	0.91
Opportunities to Gain Experience	(1.00 - 6.00)	253	3.19	1.32
Criteria (Affective Outcomes)				
Satisfaction with Major	(1.00 - 6.00)	268	4.63	1.63
Feelings of Preparedness	(1.00 - 6.00)	269	4.36	1.07
Intention to Pursue Psychology	(1.00 - 6.00)	269	4.61	1.43

Table 3

Pearson Correlation Matrix of Student Characteristics, Predictors, and Criteria, N = 244

Variables	1	2	3	4
1 Age	--			
2 Gender	.09	--		
3 Ethnicity	-.18**	-.14*	--	
4 Area of Emphasis	-.14*	-.08	.10	--
5 Quality of Instruction	-.02	.04	.09	-.11
6 Psychological Skills	-.08	-.02	.16*	-.08
7 General Skills	-.05	.10	.13*	-.06
8 Relationship with Faculty	.06	.05	.15*	-.14*
9 Opportunities to Gain Experience	.01	-.03	.28**	-.02
10 Satisfaction with Major	.05	.07	.01	-.20**
11 Feelings of Preparedness	.05	-.06	.12	-.16*
12 Intention to Pursue Psychology	.03	.05	.09	-.26**

Note. Gender coded as follows: male = 1, female = 2.

Ethnicity coded as follows: Caucasian = 1, non-Caucasian = 2.

Area of emphasis coded as follows: clinical = 1, non-clinical = 2.

* $p < .05$, two-tailed. ** $p < .01$, two-tailed.

Table 4

Pearson Correlation Matrix of Predictor and Criterion Variables, N = 244

Variables	1	2	3	4	5	6	7
1 Quality of Instruction	--						
2 Psychological Skills	.33*	--					
3 General Skills	.42*	.50*	--				
4 Relationship with Faculty	.51*	.36*	.40*	--			
5 Opportunities to Gain Experience	.37*	.33*	.30*	.51*	--		
6 Satisfaction with Major	.23*	.27*	.33*	.37*	.12	--	
7 Feelings of Preparedness	.49*	.44*	.40*	.56*	.37*	.56*	--
8 Intention to Pursue Psychology	.18*	.23*	.23*	.31*	.08	.68*	.58*

Note. * $p < .05$, two-tailed.

Table 5

Standard Multiple Regression Analysis of Satisfaction With Major, N = 251

Criterion: Satisfaction with Major	
Predictors:	Beta
Aspects of Major	
Quality of Instruction	.03
Psychological Skills	.12
General Skills	.17*
Relationship with Faculty	.31***
Opportunities to Gain Experience	-.14*
<i>R</i>	.44
<i>R</i> ²	.19***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Standard Multiple Regression Analysis of Feelings of Preparedness, N = 252

Criterion: Feelings of Preparedness	
Predictors:	Beta
Aspects of Major	
Quality of Instruction	.23***
Psychological Skills	.21***
General Skills	.03
Relationship with Faculty	.33***
Opportunities to Gain Experience	.03
<i>R</i>	.64
<i>R</i> ²	.41***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7

Standard Multiple Regression Analysis of Intention to Pursue Psychology, N = 252

Criterion: Intention to Pursue Psychology	
Predictors:	Beta
Aspects of Major	
Quality of Instruction	.03
Psychological Skills	.12
General Skills	.08
Relationship with Faculty	.31***
Opportunities to Gain Experience	-.13
<i>R</i>	.37
<i>R</i> ²	.14***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 8

Hierarchical Multiple Regression Analysis of Satisfaction with Major Controlling for Student Characteristics, N = 244

Criterion: Satisfaction with Major		
Predictors:	Step 1: Student Characteristics	Step 2: Student Characteristics and Aspects of Major
Student Characteristics		
Age	.03	.03
Gender	.06	.02
Ethnicity	.05	-.02
Area of Emphasis	-.19**	-.13*
Aspects of Major		
Quality of Instruction		.00
Psychological Skills		.09
General Skills		.20**
Relationship with Faculty		.30***
Opportunities to Gain Experience		-.12
R^2	.04*	.22***
ΔR^2	--	.17***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 9

Hierarchical Multiple Regression Analysis of Feelings of Preparedness Controlling for Student Characteristics, N = 245

Criterion: Feelings of Preparedness		
Predictors:	Step 1: Student Characteristics	Step 2: Student Characteristics and Aspects of Major
	Beta	Beta
Student Characteristics		
Age	.06	.06
Gender	-.05	-.10
Ethnicity	.14*	.00
Area of Emphasis	-.17**	-.07
Aspects of Major		
Quality of Instruction		.21**
Psychological Skills		.20**
General Skills		.09
Relationship with Faculty		.32***
Opportunities to Gain Experience		.03
R^2	.05*	.44***
ΔR^2	--	.39***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 10

Hierarchical Multiple Regression Analysis of Intention to Pursue Psychology Controlling for Student Characteristics, N = 245

Criterion: Intention to Pursue Psychology		
Predictors:	Step 1: Student Characteristics	Step 2: Student Characteristics and Aspects of Major
	Beta	Beta
Student Characteristics		
Age	.01	.01
Gender	.05	.02
Ethnicity	.12	.09
Area of Emphasis	-.27***	-.22***
Aspects of Major		
Quality of Instruction		-.01
Psychological Skills		.11
General Skills		.10
Relationship with Faculty		.27**
Opportunities to Gain Experience		-.14
R^2	.08***	.18***
ΔR^2	--	.10***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 11

Standard Multiple Regression Analyses of Satisfaction with Major Comparing Age Groups

Criterion: Satisfaction with Major	Traditional Age: 18 – 24 (<i>N</i> = 138)	Mature Age: 25+ (<i>N</i> = 110)
Predictors:	Beta	Beta
Aspects of Major		
Quality of Instruction	-.06	.00
Psychological Skills	.31*	-.07
General Skills	.01	.37***
Relationship with Faculty	.25*	.41***
Opportunities to Gain Experience	-.04	-.25*
<i>R</i>	.43	.55
<i>R</i> ²	.18***	.31***

Note. **p* < .05. ***p* < .01. ****p* < .001.

Table 12

Standard Multiple Regression Analyses of Feelings of Preparedness Comparing Age Groups

Criterion: Feelings of Preparedness	Traditional Age: 18 – 24 (N = 138)	Mature Age: 25+ (N = 111)
Predictors:	Beta	Beta
<i>Aspects of Major</i>		
Quality of Instruction	.25**	.16
Psychological Skills	.34***	.10
General Skills	-.06	.15
Relationship with Faculty	.23**	.45***
Opportunities to Gain Experience	.05	.00
<i>R</i>	.66	.67
<i>R</i> ²	.43***	.45***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 13

Standard Multiple Regression Analyses of Intention to Pursue Psychology Comparing Age Groups

Criterion: Intention to pursue psychology	Traditional Age: 18 – 24 (<i>N</i> = 138)	Mature Age: 25+ (<i>N</i> = 111)
Predictors:	Beta	Beta
<i>Aspects of Major</i>		
Quality of Instruction	-.06	.05
Psychological Skills	.25*	.01
General Skills	.02	.17
Relationship with Faculty	.28**	.32**
Opportunities to Gain Experience	-.12	-.14
<i>R</i>	.38	.41
<i>R</i> ²	.15**	.16**

Note. **p* < .05. ***p* < .01.

Table 14

Standard Multiple Regression Analyses of Satisfaction with Major Comparing Emphasis Groups

Criterion: Satisfaction with Major	Clinical (<i>N</i> = 96)	Non-Clinical (<i>N</i> = 155)
Predictors:	Beta	Beta
Aspects of Major		
Quality of Instruction	.02	.01
Psychological Skills	.24*	.04
General Skills	.02	.27**
Relationship with Faculty	.41**	.27**
Opportunities to Gain Experience	-.30**	-.05
<i>R</i>	.49	.44
<i>R</i> ²	.24***	.19***

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 15

Standard Multiple Regression Analyses of Feelings of Preparedness Comparing Emphasis Groups

Criterion: Feelings of Preparedness	Clinical (<i>N</i> = 96)	Non-Clinical (<i>N</i> = 156)
Predictors:	Beta	Beta
Aspects of Major		
Quality of Instruction	.35***	.17*
Psychological Skills	.33**	.13
General Skills	.09	.02
Relationship with Faculty	.19	.37***
Opportunities to Gain Experience	-.10	.14
<i>R</i>	.69	.63
<i>R</i> ²	.48***	.40***

Note. **p* < .05. ***p* < .01. ****p* < .001.

Table 16

Standard Multiple Regression Analyses of Intention to Pursue Psychology Comparing Emphasis Groups

Criterion: Intention to pursue psychology	Clinical (<i>N</i> = 96)	Non-Clinical (<i>N</i> = 156)
Predictors:	Beta	Beta
Aspects of Major		
Quality of Instruction	-.11	.06
Psychological Skills	.14	.08
General Skills	.07	.09
Relationship with Faculty	.51***	.22*
Opportunities to Gain Experience	-.33**	-.03
<i>R</i>	.48	.33
<i>R</i> ²	.27***	.11***

Note. **p* < .05. ***p* < .01. ****p* < .001.

Appendix

Survey Items Organized by Scale

PREDICTORS (ASPECTS OF MAJOR)

Quality of Instruction

Question Stem: Please indicate your level of agreement or disagreement with each of the following items.

1. I felt the level of coursework was intellectually challenging.
 2. Psychology instructors were typically well prepared for their classes.
 3. Instructors encouraged students to participate in discussion of topics.
 4. Instructors provided effective feedback to students.
 5. The instructors were knowledgeable in the subjects they taught.
 6. The textbooks/readings used by the instructors were up-to-date.
 7. The basis for assigning course grades was clearly defined.
 8. Instructors used outside materials in addition to textbooks.
 9. Instructors shared their own research/professional experience with their students.
 10. Professors presented "real world" applications of the material covered in the courses.
 11. The instructors made an effort to gear their courses toward the students' interests.
 12. I was satisfied with the variety of courses offered within the department.
 13. The Department offered courses relevant to my career goals.
 14. The instruction in my psychology courses was relevant to my interests.
-

Appendix (Continued)

Development of Psychological Skills

Question Stem: As a result of your experiences with SJSU, how would you rate your abilities on each of the following areas?

1. Understand the major theoretical perspectives in psychology.
 2. Understand the explanations of and differences between adaptive and maladaptive behavior.
 3. Understand the research methods used by psychologists.
 4. Comprehend basic descriptive and inferential statistics.
 5. Understand ethical issues related to the practice of psychology.
 6. Understand multicultural perspectives on human behavior.
 7. Use computer-based applications to psychology (i.e., statistical software).
 8. Explain behavior using different psychological theories.
 9. Understand research articles in psychology.
 10. Use library resources to conduct literature searches.
 11. Design, conduct, and write up a research study.
 12. Summarize and analyze data using appropriate statistical techniques.
 13. Write in American Psychological Association (APA) style.
 14. Apply psychological principles and methods outside the academic environment.
-

Appendix (Continued)

Development of General Skills

Question Stem: To what extent do you feel majoring in Psychology at SJSU has contributed to your abilities in each of the following areas?

1. Write effectively
 2. Speak effectively
 3. Read effectively
 4. Work independently
 5. Work cooperatively in a group
 6. Organize my time
 7. Plan and carry out projects
 8. Define and solve problems
 9. Understand different cultures
 10. Persist at difficult tasks
 11. Help other people
 12. Serve my community
-

Appendix (Continued)

Relationship with Faculty

Question Stem: Please indicate your level of agreement or disagreement with each of the following items.

1. My instructors were aware of my future goals.
2. I consider at least one of the faculty to be my mentor.
3. My interactions with the faculty have influenced my personal life in a positive way.
4. I felt comfortable in approaching professors outside of the classroom.
5. The instructors' office hours accommodate their students' schedules.
6. Faculty members were interested in hearing what I had to say.
7. The faculty has given me advice that will help me achieve my goals.
8. I plan on keeping in touch with one or more of the faculty after I leave SJSU.
9. The undergraduate advisors were available if I needed to see them.
10. The undergraduate advisors in the Psychology Department have been helpful to me.

Appendix (Continued)

Opportunities to Gain Experience

Question Stem: Please indicate your level of agreement or disagreement with each of the following items.

1. I was made aware of opportunities to become involved in professors' research projects.
 2. I was made aware of any opportunities for internships and fieldwork.
 3. I was made aware of any psychology-related job opportunities.
 4. Information was made available to students on how to apply for graduate school.
 5. There were adequate opportunities to do research with the faculty.
-

Appendix (Continued)

CRITERIA (AFFECTIVE OUTCOMES)

Satisfaction with Major

Question Stem: Please indicate your level of agreement or disagreement with each of the following items.

1. If I had to do my education over again, I would still choose to major in psychology.

Feelings of Preparedness

Question Stem: Please indicate your level of agreement or disagreement with each of the following items.

1. I feel my studies at SJSU have adequately prepared me for my future goals.
2. My studies at SJSU have prepared me for a job in a psychologically related position.

Intention to pursue psychology

Question Stem: Please indicate your level of agreement or disagreement with each of the following items.

1. I intend to pursue further education in the field of psychology.
 2. Once I have completed my education, I intend to seek employment in a position related to Psychology.
-